LOGICAL RELATIONSHIPS IN

ENGLISH SYNTAX

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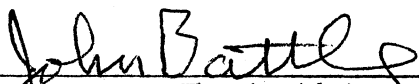Indiana University
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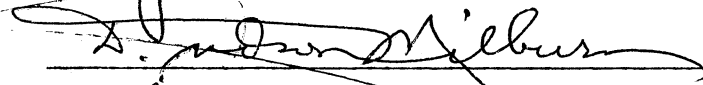for the Degree of
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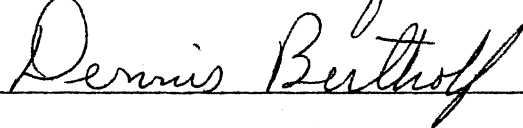July, 1975

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PREFACE

This study represents an attempt to apply some of the concepts of
mathematical logic to the analysis and description of English syntactic
structure. A major reason for this attempt has been the author's
feeling that some means must be found that will enable grammarians to
determine more precisely the relationship of form to meaning. While
the analyses in this work often raise as many questions as they answer,
it is hoped these questions will be the impetus to a long and continuing
discussion among logicians, linguists, philosophers of language, and
psycholinguists. Language is incredibly complicated, and the insights
of scholars with varying viewpoints is needed if the web of language
is ever to become untangled.

The intellectual inspiration for this study can be found in the
works of Gottlob Frege, Hans Reichenbach, and George Hemphill. The
works of Richard Montague and M. J. Cresswell have also been quite
instructive.

The author wishes to express his gratitude to two members of his
dissertation committee, Dr. Judson Milburn and Dr. John Battle, for
encouraging him to write this hybrid work--hybrid in that it combines
theory and research with materials which, hopefully, will be the basis
of a future textbook. The author owes much also to other members of
his committee, Dr. Robert Radford and Dr. Dennis Bertholf. Dr. Radford
contributed cogent suggestions concerning the philosophical basis of
this work as well as some invaluable advice pertaining to stylistic

format. Dr. Bertholf devoted much of his time to me and patiently

inaugurated me into the mystic realm of precise mathematical thinking.

Of course, the author alone is responsible for any shortcomings in

this study.

The author's wife deserves special mention. She has been a

constant, unfaltering source of encouragement.

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LIST OF SYMBOLS

a, b, c, . . .	arguments
t, u, v, . . .	terms
A, B, C, . . .	functions (one-place relations)
M, N, O, . . .	relations (multiple-place functions) when left-subscripted; otherwise, classes
. . . (X), (Y), (Z).	unanalyzed clauses
F_2, R_2, F^2, R^2	subscript adjectivals and superscript adverbials
2^R, 3^R, . . .	two-place relation, three-place relation, etc.
t_1, t_2, t_3, . . .	number and order of terms indicated corresponding to left-subscript on relations
$\in$	class membership
$\subset$	subset, absolute class inclusion
$\subsetneq$	proper subset, proper class inclusion
$=$	equality, identity
$*$	deviant construction in object language, and passive voice in logical language
^2R	left superscript denotes extent of compound predicate which is not further analyzed
$!$	reversibility of terms is possible
$?*$	uncertain as to deviation
$\wedge$	assumed term—e.g., $\hat{t}_1$
$\rightarrow$	logical entailment, implication

–	negation
&	logical conjunction
v	logical disjunction, alternation
:	logical connective of anticipatory specifi-cation

CHAPTER I

INTRODUCTION

Background, Purpose, and Method

Auctorial Information

Before a writer introduces his subject to a reader, he should
first introduce himself to the reader. The reader is entitled to
obtain whatever insights he can, in a somewhat informal manner, about
the writer's development and the reasons for which the book was
written in the first place. It is the place where the general tenor
of the whole book should be laid bare, including the author's feelings,
biases, and predilections.

Though the author's primary interest is in linguistic theory, this
effort is not intended, for the most part, to be a theoretical work.
Its purpose is mainly didactic. The reason for this decision is
simple. Like many students of grammar, the author has often felt that
many of the analyses and descriptions given in the standard handbooks
were inadequate or incorrect. Categories seemed to overlap unneces-
sarily; certain rules appeared to be quite arbitrary; analyses were
tailored to particular sentences instead of generalizations being
sought that would explain many cases. Since language is basic to all
human endeavor, these are grave allegations. But perhaps the gravest
allegation is the illogicality which one finds inherent in many

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analyses offered in the schoolroom grammars. The reason schoolroom grammars work as well as they do is because the sentences chosen for analysis are carefully hand-picked; many common sentences of everyday speech which defy analysis by the standard schoolroom procedures are simply ignored on the criteria that they are unpolished vulgarizations anyway, and hence are, in some sense, ungrammatical. The purpose of this work is to investigate a significant portion of English syntax using an eclectic approach. That is, ideas and methods will be borrowed from various schools of grammatical thought: traditional, structural, and transformational. The main innovation will be to subject the analyses to techniques borrowed from modern mathematical logic. This logical approach will be restricted to a fairly elementary level, however, for the ultimate intention is (after the author has received sufficient "feedback" from his readers) that the essentials herein contained be re-written in a format suitable as a handbook for students at the secondary level of school.

Conceptual Considerations

Since the audience for this work in its present form will consist mainly of scholarly people, theoretical comments will be interspersed, along with abundant discussion, here and there in the text wherever they seem appropriate. This work, however, will not be heavily docu-mented unnecessarily, for many traditional concepts have been so widely known and used for several hundred years that allusion to a few key works utilizing these concepts should be sufficient. Some basic con-cepts, however, may be noted immediately. This is a work on syntax, not semantics. Nevertheless, recourse to semantics will be frequent so that syntactic structures may be established, for it is a contention of

this work that, while there is a dividing line between the two levels, the line is not absolute; the one merges into the other. That is, meaning often seems to supply a foundation for syntax. This statement should be considered as a rejection of the generative semantics school of thought, which is based on the theory that deep structure _is_ semantic structure, that the levels of syntax and semantics are indistinguishable from each other. (To what extent the logical arguments, terms, functions, and relations--as they are represented by English words in this text--_may_ be semantic primitives, I leave for the reader to decide.) The definition of "syntax" used in this work agrees with Chomsky's original formulation;[1] that is, that "grammatical" and "meaningful" are not synonymous terms. As he notes, reliance must be put on the native speaker's intuition for the knowledge that only the first of the following pair of sentences is grammatical:

Colorless green ideas sleep furiously (1.1)

*Furiously sleep ideas green colorless (1.2)

The asterisk on (1.2) therefore indicates ungrammaticality. Some authors use the asterisk to mark mere semantic unacceptability (it will not be so used here) as in a sentence such as *The book fainted. The fact that fainted requires a conscious being for a subject does not seem to fall within the realm of grammatical syntax. It represents incorrect lexical insertion--a psychological fault, not a grammatical fault. Wittgenstein, in dealing with the related notion of "understanding,"[2] seems to imply the same conclusion when he asks, "Do we understand . . . Lewis Carroll's poem 'Jabberwocky'? In his ensuing discussion it becomes clear that what he means is that Carroll's poem

has a "grammatical sense" (somewhat akin to the structural grammarian's idea of sentence meaning as opposed to lexical meaning), but not a semantical referential sense. When one speaks of "nonsense sentences" (as in much of Carroll's children's literature), one does, in fact, mean grammatical sentences; they, at the very least, sometimes indicate category "meanings," such as noun, verb, etc.

On the other hand, a string of words may be semantically meaningful and ungrammatical at the same time:

*John and I jumps over wall and we shoots he.[3]   (1.3)

In this case, it can be seen that incorrect inflectional usage and incoreect word order are what make the sentence syntactically ungrammatical. Thus, from this and the foregoing examples, it can be concluded that syntactic grammaticality is largely a matter of acceptable order in a purely mechanical sense. There is a "gray area," however, where it is difficult to distinguish between mere preferential usage and grammatical syntax. (Considerations of inflection--concord, number, and the like--will be omitted in this work because this work will concentrate mostly on exocentric constructions, not endocentric constructions, and the majority of constructions to be considered will be non-deviant--at least in everyday speech.) An important qualification must be made now, however. "Acceptable ordering" in this work is taken only in a "statistical" sense, not necessarily in any arbitrary sense, as regards the gross exocentric forms. Studies of the world's languages and recent studies in child language acquisition (of English) make it clear to the writer that sentences begin on a more or less disordered level as far as syntax is concerned.[4] What people do, it appears, is acquire a vocabulary in their day-by-day experiences;

and the vocabulary items refer to each other and to things tangible

and intangible in terms of a social context. Then these things are

"related" in a logical sense (the explanation of which makes up the

body of this work). Surface sentence patterns are thus a result of

social interaction. With the passage of time, the frequency of word

orders in certain sentential formulations (due to imitation, etc.)

become somewhat habitual, thus settling into social patterns, just as

other forms of human behavior do. But it must be remembered in

speaking of the importance of word order in syntax, that this is only

true of analytical languages such as modern English; in a highly

synthetic language such as Latin, a word can occur virtually anywhere

in the sentence without changing the basic intended meaning of the

sentence. And though patterns in modern English will be discussed

later, these are just the usual "statistical" formulations; for one

can easily find "exceptions" to most so-called patterns, which never-

theless are accepted by native speakers as meaningful and grammatical.

Some obvious examples are: (1) the third slot in simple statements

(N-V-N, N-V-V, N-V-Adj., N-V-Adv.); (2) the extreme mobility of many

adverbials and indirect objects; and (3) the subject in predicate

position in passive and expletive sentences.

If grammatical word order turns out to be merely a matter of

frequency and convention, with "exceptions" (e.g., in poetical and

other elevated speech), then, in a sense, only the "logical order" is

what matters; and if this claim is true, then the attainment of a

universal linguistic theory seems within reach. One should note,

however, that no pretense is made in this paper to a knowledge of

mental processes, universal or otherwise; that is, the idea of

universal is not meant to be taken in a psychological sense. The term
is used here in the mathematical sense--i.e., that a theory (here a
portion of mathematical logic) which can encompass all the special cases
of a topic is considered to be a universal theory.

Levels of Analysis

One important question that results if the above ideas happen to
be true concerns the validity of the distinction between deep and sur-
face structural levels--an idea that has gained a great following among
linguists since the publication of Noam Chomsky's Aspects of the Theory
of Syntax (1965). On this theory, one obtains a "surface derivation"
by means of transformations of various sorts applied to a deep structure.
(The contention of this paper is that there is no structural level in
any syntactic sense below the surface; transformations are applied only
on the surface rather like the manipulation of brackets, parentheses,
and braces in the various steps of solving an algebraic problem.) The
fact that Chomsky's system does not work well quite often is evidenced
in the arising of various splinter groups such as the case-grammar
school of Charles Fillmore and the school of generative semanticists
associated with the names of George Lakoff, John Robert Ross, and James
McCawley. Noteworthy is the fact that both these schools are more and
more resorting to ideas and techniques emanating from extra-linguistic
disciplines such as logic and philosophy of language. The problem is
that they find they must extend the level of deep (semantic) structure
deeper and deeper, and there seems to be no end in sight. Ross, for
example, in his recent work (unpublished) has tried to apply the
"speech acts" theory of the philosopher J. R. Searle, with dubious

success. He has failed to note that many of the reasons which motivate

a philosopher to study language are not identical with a linguist's

motivations. A linguistic theory of language focuses on the activity

of communication and need not be the same as a philosophic theory of

language which deals with language in its total socio-cultural setting,

though the two approaches do, of course, converge eventually. The

stumbling-block appears to be the question of meaning; and, while

scholars are far from understanding it, many would agree that meaning

is generated by factors relating to worldly experience (including

linguistic experience), neurology, and psychology. As a second-order

(i.e., higher-order) study, philosophy has need of data from all these

(and other) areas in order to frame a general theory of language. But

linguistics, as a first-order study, is more specific; it could solve

many of its problems by restricting itself to trying to frame a theory

of communication. This is an approach of which Searle himself seems

to approve, for he says, "And, of course, for most purposes in the

science of linguistics it is not necessary to speak of acts at all.

One can just discuss phonemes, morphemes, sentences, etc."[5] Instead

of searching for deeper and deeper levels of structure (which no one

has been able to define and the existence of which no one has been

able to prove), why not accept surface structures with their attendant

meanings as the beginning place for linguistic studies? After all,

one need not assume that there are levels of semantic derivation which

strangely correspond to Freud's id, ego, and superego; but it is just

such ideas that are suggested by the interpretations of "deep structure"

on the part of many modern linguists. One need not try to determine

just where the deepest level is at all. Chemists, for example, explain

the composition of matter ultimately in terms of an underlying atomic

level which they explain by diagrams and other symbols; but they do not

insist that the symbols or structural diagrams are themselves on a

series of levels comparable to the matter they are describing. There

is therefore no pressing reason to believe that linguistic symbols

(words, concepts) or the notation which explains them derives in any

ordinary sense of the term "deep" as it has been so widely and

variously used by modern linguists. These suggestions may seem like

a step backward to some linguists, but it is a contention of this

writer that it is a step in the right direction.

Chomsky, in many of his works, makes a supposedly important dis-

tinction between competence and performance (e.g., in Aspects, pp. 3-15).

But if, say, two different orders of the same communication are

essentially a difference of focus or stress (e.g., active/passive), and

such focus or stress is often important to the speaker, what sense does

it make to posit an underlying form of different focus or stress from

that intended by the speaker? Since performance is actual speech and

competence is an idealized model of speech, any idealized surface model

which posits a different idealized underlying form is circular, for

its assumption is, in fact, based on a surface form to begin with.

(An account, for example, of the passive transformation in many hand-

books posits an underlying form which is identical or nearly identical

to the simple active voice form which often occurs on the surface.)

Chomsky is right, of course, when he says that such aberrations of

performance as stuttering, pauses, interruptions, lapse of memory,

and the like should be deleted from a linguist's model of grammar.

Linguists, like all scientific investigators, must deal in idealized

models. The point is that all idealized models of syntax should be of
surface structures—and therefore in some sense performance. What may
be underlying in Chomsky's sense of innateness (Aspects, pp. 47-59) is
a logical device which enables man to categorize certain sorts of
meaningful relationships attaching to words that he has learned through
experience, but this logical device is not to be construed in any
Freudian-like way. In this work, it is maintained that, in Chomsky's
terms, the logical arrangement of categories is competence, while the
actual surface arrangement of morphemes and sounds is performance. The
different arrangements of morphemes (etc.) in sentences containing the
same logical proposition (i.e., the basic intended meaning) can be
viewed as transformations involving changes in surface sentence
patterns.

Propositions and Paraphrasing

Closely related to matters of transformations is the practice of
paraphrasing. For example, the logician speaks of two sentences, say
active/passive, but what concerns him is the proposition which is the
"same" in both sentences. So, meaning is not ignored by any means; it
is merely taken for granted in specific cases. Paraphrasing in this
work will, however, be "close," wherever this is possible, to the
wording in the sentence under consideration because of the importance
attributed above to the normal social interaction process of vocabulary
accumulation. Since it is a main contention of this work that simple
sentence patterns are only mechanical formulations into which people
try to force their thoughts, and therefore are conventional to a great
extent, not conceptual entirely, no assumptions will be posited for

relating different structures that surface considerations do not warrant. That is, while some of the analyses herein often seem similar to the work being done by the generative semantics school of thought, every effort will be put forth to avoid some of the extremely dubious interpretations which that school has suggested--dubious because they depend more and more upon conceptual interpretation, and tend quite often to forget the grammatical structures with which they are working. For example, the two phrases Bob's brother-in-law and Bob's wife's brother, may indeed mean essentially the same thing, but the difference in their structures is partially due to extralinguistic criteria which in this case are largely irrelevant, namely kinship relationships expressed in legal terms in the first case, and not to structural change of focus, style, etc. An example of true structural change would be to take the second sentence above and convert it to The brother of Bob's wife; it may be now that The brother is being stressed rather than Bob (or Bob's wife), but in any case the "basic" meaning remains unaltered. It is not wrong in principle to consult extralinguistic criteria when trying to solve a syntactic problem; it is wrong to forget that surface structures, how and why they change, are what an explanation is sought for.

As can be seen, the theory gradually being sketched here is a return to a more empirical point of view--a view which, nevertheless, does not lose sight of the many real contributions that have been made by modern grammarians. In much of what follows, the careful reader will find ideas that first had their beginnings in traditional, structural, and transformational grammars.

No attempt is made in this work to provide a generative procedure. One reason is that space does not permit it, for there are many other

things that must be done before a generative procedure can be estab-

lished; this task is left for others to accomplish. Another reason

is that each (presumably) well-formed sentence is taken more or less

as it is, i.e., in its present, "linear" form, rather than assuming

that it results from the application of certain rules to an underlying,

deep structure. When explicating by paraphrase, of course, that two

sentence forms (e.g., active/passive) say essentially the same thing,

the suggestion is bound to arise in some minds whether or not the two

variations do, in fact, come from some common, underlying form by

rules of various sorts. And, indeed, much such transformational method-

ology could be applied to the examples in this work. But the emphasis

herein is on the logical structure of propositions and their relation-

ships to surface grammatical forms. The various sentence patterns

which could be used to express a single proposition are a matter quite

often of rhetorical style and focus and are not directly related to

the purpose of establishing correlates between logical and grammatical

structure. The scope of this work, therefore, does not permit a com-

plete developmental comparison of the logical structures with all their

possible sentence patterns correlates. Anyway, as intimated earlier,

it is probably true that no underlying order exists; order is a surface

phenomenon which "derives" from unordered logical primitives. Nothing

else is certain. Wittgenstein, for example, in discussing how one

understands the sense of a sentence, points out the problem of decoding

(translating) sentences. He asks: "At what moment of translating into

English does understanding begin?" That is, is the process of sentence

understanding related to the where and when of sentence production?

No one knows for certain if it begins with the first words, in the

middle, or at the completion of a sentence; nor is it known whether meaning precedes, accompanies, or follows speech (writing). A reasonable place to begin sentence analysis, then, appears to be at the beginning of the sentence as uttered (or written); once one has worked one's way through a sentence and grasped its "propositional" meaning (i.e., its intended basic meaning or logical "form"), one can decide on a grammatical analysis.

Linguistic Units

The question now arises: what is the primary linguistic unit--the word or the sentence? To say anything significant, people must use sentences; and the "same" words in different sentences often mean different things; hence, the sentence would seem to be the primary unit. "Meaning is use" is the expression Wittgenstein made popular in twentieth century philosophical circles, and that idea is adhered to in this work. But it was the German mathematical philosopher, Gottlob Frege, to whom Wittgenstein was indebted for this idea, although Wittgenstein developed the idea on somewhat different lines than did Frege. It is Frege's nineteenth century concept (not known to many, however, till the twentieth century) which will be employed here. In Frege, one finds that a sentence and the words which compose it regarded as a kind of continuum. That is, both are primary, but from different points of view. According to Frege, as his greatest expositor Michael Dummett points out, "in the order of explanation the sense of a sentence is primary, but in the order of recognition the sense of a word is primary."[7] While it is true that the specific sense of any word can only be known by its use in a particular

sentence, nevertheless the word in isolation often does contain a

general meaning which is based on its specific usages in various sen-

tences. And so it must be that a sentence, in a certain social

context, is meaningful only insofar as its component words in some way

contribute to its total meaning, even though the "tones" of the words

are somewhat altered (sometimes) from their dictionary definitions.

By "tone" is meant a semantic variation which has no <u>logical</u> basis,

though it may have an aesthetic basis—such as substituting the meaning

"cur" for "dog" in a particular sentence.[8] Therefore, because of the

problem of "tone," says Dummett in his great work on Frege,[9]

> We cannot grasp the sense of a word otherwise than by refer-
> ence to the way in which it can be used to form sentences;
> but we understand the word independently of any particular
> sentence containing it. Our understanding of any such par-
> ticular sentence is derived from our understanding of its
> constituent words, which understanding determines for us
> the truth-conditions of that sentence; but our understanding
> of those words consists in our grasp of the way in which
> they may figure in sentences in general, and how, in general,
> they combine to determine the truth-conditions of those
> sentences.

So, in order to avoid the obvious circularity of such a continuum-

conception, the total sentence meaning cannot be explained without

reference to its truth-conditions—i.e., those conditions which must

exist for the sentence to have meaning, to be either true or false.

(These remarks refer, primarily, to assertive sentences; but it must

be noted that even some assertive sentences do not seem to fulfill

truth requirement conditions.) But this latter condition takes one

too far afield—into the domain of philosophical problems and

questions concerning the very nature of reality and the like. As in

most works on grammar, the examples herein will be assumed to be true

or false (or "neutral") in some possible world or situation. This

statement is not meant to imply, however, that occasional excursions into the realm of philosophical considerations will not occur in this work. They will, if they seem directly relevant to the logico-grammatical problem at hand.

Terminology and Procedure

Because they have become established by long usage, the grammatical terms used in this work will, in general, accord with the usage found in traditional grammars. However, a few additional terms from logic and mathematics must be introduced as well. The meaning of the term "function," for instance, has been interpreted in various ways as the notion has been developed during the history of logic and mathematics. The term is here used in its Fregean sense to refer to a logical predicate or attribution or property; a function can be viewed as a process which is said to operate on (i.e., to relate to) an "argumant" (a referent, name). Thus, in Fish swim, fish is an argument which finds its specification in the function swim. Likewise, in Mary is beautiful, Mary is an argument which is operated on (specified) by the function is beautiful. These are nothing more than examples of simple, Aristotelian subject-predicate logic found in one form or another in most grammatical explanations. It seems that no one considered the notion seriously, till Frege's work became known in the late nineteenth and early twentieth centuries, that there are other ways to explain how human reason works. In spite of the keen interest accorded Frege's work by logicians, especially since World War II, little impact had been made on grammatical theory by his thoughts on language until recently. Frege's big advance in the logical analysis of language was that he

conceived a difference between the idea of a "function" and the idea of

a "relation." A relation, he claimed, can be viewed as a function with

more than one argument; conversely, a function can be viewed as a one-

place predicate relation (in grammar, an intransitive sentence). For

example, in John hit the ball, the two-place predicate relation is hit

and the two "terms" are the relata, both of which are specified by hit;

in grammar, the two terms are the subject (referent) and the direct

object (relatum). Such an example is called a two-place or dyadic,

relation. In theory, relations may be of any number: dyadic, triadic,

tetradic, and even many-place relations; but in practice anything

beyond triadic is rare in English and the other Indo-European languages.

In polysynthetic languages, however, the number of relations may be

quite large. Grammatically speaking, dyadic relations are direct

object sentences; a common triadic relation is a sentence containing

both a direct object and an indirect object.

Logical predicates (functions and relations) are seen in this

system of analysis to be central; they form the core around which

cluster the arguments and terms. A distinction is made between

argument and function on the one hand and terms and relations on the

other hand for the practical reason that terms have a tendency to fall

into an ordering process. The distinction will sometimes be blurred

in certain analyses in this paper, however, in order to gain notational

consistency. George Hemphill was the first person who tried to apply

Frege's insights to purely grammatical problems. In his recent

pioneering work on this subject, he said that "perhaps the greatest

intellectual liberation in Frege is the liberation from the dominance

of subject-predicate thinking. This was achieved by making a distinction

between functions and relations."[10] This has been the present writer's

contention for several years, but no time was taken to see if it could

be applied in a consistent and deep sense to grammatical problems. In

this regard, Hemphill has paved the way, and the present work may be

considered as an extension of his insights. Hemphill's little book

(111 pages) devotes only some twenty-five pages to syntax; the remainder

deals with applications of his system to phonology and morphology.

Thus, Hemphill's book is just a brief sketch. The present work goes

far beyond Hemphill's efforts in syntax, and in many cases disagrees

violently with his conclusions. The great merit of Hemphill's book

for the present writer is that it has proved to be a very suggestive

base for further enquiry, not only in the area of complicated sentences,

which are entirely ignored by Hemphill, but also in the area of improved

grammatical explanation. In his coverage of syntax, Hemphill is

especially remiss in that his analyses are mostly just what one finds

in any traditional grammar, except that he incorporates his logical

symbolism to label logically significant parts of sentences.[11]

The primacy of predication in sentence analysis (as opposed to

putting equal weight on subject and predicate) has sometimes been

appreciated by certain modern grammarians. Langendoen, for instance,

says:[12]

> We can appreciate this most easily by considering that we
> can substitute meaningless terms, for example, numerals
> or letters of the alphabet, for the subject and objects
> of any core sentence . . . . If, however, we retain
> the lexical content of the subject and objects, but re-
> place the predicate with a letter of the alphabet, the
> result communicates next to nothing:
>
> x disappeared.   My bicycle x.
> x lived in y.   George Washington x in that house.
> x were giving y out to z.   The hippies were x-ing flowers
>   out to the passers-by.

x are ripe.	The bananas are x.
x is the wife of y.	Princess Grace is the x of Prince Rainier.
x is aware that y is fond of x.	Harriet is x that the boss is y of her.
x realizes that y is doomed.	Snoopy is x that he is y.

Langendoen thinks such formulations only reveal how many variables
a predicate may have and some information about complex sentence
formation.[13] The contention of the present work is that such a view is
extremely short-sighted; much additional insightful information can be
obtained by applying a little effort. It is hoped that these remarks
prepare the way for an answer to a question that may still be uppermost
in the reader's mind, namely, why do a logical analysis of grammar at
all? The answer is that it may clarify matters concerning the logical
structure of langauge, and this aspect of language has largely been
ignored by grammarians. The thesis of this work is that language is
first of all logical; and that a grammatical analysis, strictly speaking,
should follow a logical analysis. The former merges into the latter,
however, and a person should not be too dogmatic about where one leaves
off and the other begins.

In dealing with language, logicians have learned that, to avoid
confusion, one must try to separate the analytical tools from the thing
being analyzed. That is, they realize that when linguists use language
to study language, there are obvious built-in hazards. Hence,
logicians use a formalized language to study an object language (in
this book, English). Since this work, however, is only an introduction
to the possibilities of the logical analysis of English, and since the
writer does not wish to alienate his non-logician readers by using too
much abstract symbolism, the symbols and methods of the formal language

(mathematical logic) will be kept at an absolute minimum. For now, all that the reader need know is that in order to carry out a logical analysis of English, one must set up a tripartite classification of the "parts of speech." That is, as noted earlier, words will be classified as (1) arguments (or terms) and (2) functions (or relations); in addition, a few (3) logical symbols (to be introduced as needed) representing such logical words as _and_ and _or_ etc. will be employed because they affect the logical structure of sentences.

Using words to discuss words inevitably causes some problems in the use of puunctuation. In order to avoid over-punctuation, this work (unlike most books on logic) follows the practice of most grammars in that when referring to a word in a context simple underlining will be used. Quotation marks will only be used when the meaning of the word is being stressed as opposed to the actual word choice itself. Otherwise, quotes will be used to indicate abnormal or questionable meaning or use, and underlining will be used to stress discussed comments. Some symbols used in the object language will also be used, though sometimes differently, in the logical language. Their use, if not clear from the context, will be explained when they are used. In this regard, any mathematicians who may read this paper should note that the writer makes no distinction herein between equality and equivalence (= and ≡). (Both terms are used synonymously in this work to avoid stylistic monotony.) This distinction seemed to be an unnecessary complication to add to a work whose readers will be mostly non-mathematicians and non-logicians, and the format also largely obviates the need for this distinction. In the logical language, only (=) will be used.

Finally, two crucial questions need mentioning, though the body of this work is taken up with their explication. They are (1) How does one know when he has arrived at a correct analysis of a given sentence? and (2) How can one determine a sentence type? These questions are difficult, one might say impossible, to answer with any degree of precision. (The answer to both questions, to be quite honest, is probably in terms of the personal convictions of the analyst, based on some theoretical framework.) That is why grammatical analysis is at once frustrating and fascinating to the professional linguist. Before one can establish a sentence type, one must first attempt to define the term "sentence," and this is not an easy task either. Traditional grammarians define a sentence as a written or spoken expression of a "complete thought," though they do admit that some sentences are only complete if one allows for tacitly "understood" elements; a case in point is the understood <u>you</u> in imperative (command) sentences such as <u>(You) listen to me</u>! However, traditional grammarians are obdurately selective; understood elements are only allowed in the interpretations of certain kinds of sentence structures, whereas they might be usefully employed (with caution) also to interpret those sentences in which understood elements are disallowed. Of course, when one is so arbitrary and dogmatic about what is or is not a sentence (or a sentence constituent), it becomes possible to discern patterns, because the theory itself is so designed that, in a manner of speaking, it determines the patterns. That is, the patterns are not just "out there" in the world of speech; they come into being as a result of some strange mental processes of the analyst.

Rejecting such traditional notional ideas as "complete thought"
(impossible to define), "subject" (agent, topic, or theme), "object"
(receiver), etc., structural grammarians go to the other extreme.
Influenced by psychological behaviorism, they insist on empirical
adequacy, which for them means that a sentence is the largest lin-
guistic unit amenable to a more or less precise analysis. Though
they often do not practice what they preach, structural grammarians
do not believe that a linguistic analyst should resort to considering
presuppositions, understood elements, nuances, and the like. For them,
only the data are important; a linguistic description is just an account
of a mechanical, overt system. Transformational-generative grammarians
do accept covert entities; they also insist on "empirical adequacy";
both goals are achieved by reviving and modernizing Cartesianism. They
posit "phrase structures" (rather akin to the traditionalists' "simple
sentence patterns" discussed in Chapter II); thus, the "sentence" is
also for them the highest linguistic unit, but any uttered sentence
may be the final result of a series of rules and transformations
applied to the phrase structures. Since 1965, transformational
theorists have posited phrase structures which exist at deeper and
deeper levels of "mental consciousness." This trend has been carried
even further by the school of generative semanticists, who claim that
deep structure is not syntactic, but semantic. In so claiming, they
often have to resort to presupposition, understood elements, logical
deduction, and extralinguistic information. In one sense, they are
like the tagmemic grammarians, who claim that the sentence is not the
highest linguistic unit, but lies intermediary between the clause and
the paragraph. However, the tagmemic analyst sees language in a total
cultural sense. Theoretically, a linguistic analysis does not stop

at the level of the paragraph, nor at larger discourse levels; it contains all the socio-cultural data which are conducive to language usage.

The analytic procedure used in this work employs some elements of all these approaches. The basic syntactic unit is the simple sentence. For explanatory adequacy, the sentence may be said to consist of various sub-categories (see Chapter II). The basis of any simple sentence is the proposition (similar to the traditionalist's "complete thought") which it conveys. "Proposition" is a primitive, undefined term; and since simple sentences (as will be shown later) can occur in a bewildering variety of forms (even though they usually occur in some half-dozen mechanically stereotyped forms), they may be said, in some sense, to be "formless," and the term "sentence" is thus tantamount to a primitive, undefined entity just like the proposition it conveys. Thus, in the final analysis, the question of sentence type, while not meaningless, is somewhat beside the point. A sentence may convey more than one proposition, and sometimes a proposition may be conveyed by a part of a sentence; other times a sentence may seem to be conveying more than one proposition when only one proposition is, in fact, intended by the speaker. Every sentence needs to be interpreted within a socio-cultural context insofar as this is possible. Many complicated sentence patterns seem obviously to be manipulations (transformations) of simple patterns or parts of patterns; therefore, transformations are used or alluded to in this work, but every effort is made to use constraint. Transformations such as deletion, addition, and substitution, for example, should not diverge too far from the words in the sentences being transformed, thereby maintaining a degree of empirical

adequacy. Sentences are used in socio-cultural contexts, and thus, in themselves, have little meaning; hence, a too drastic change in the lexical content of a transformation tends to make the interpretation suspect. The propositional content must always be borne in mind. In this regard, it would be better, perhaps, to call propositions "basic thoughts," and the larger contexts of discourse might then more appropriately be called "complete thoughts." For it will be shown in Chapter IV that there is no exact boundary which separates sentences from paragraphs and even larger stretches of discourse. Neither can there be an exact boundary which separates propositions from sentences, but just exactly how they are related is still a subject of much debate. In some quarters, the term "proposition" is out of fashion, or at least very suspect, but the present writer maintains that without this "conceptual tool" many sentences could never be convincingly explained, only described. (As an analogy, it might be noted that electrons, neutrons, and protons are suspect in the same way that propositions are; but where would the modern chemical industry be if it did not operate on the assumption that they do exist? Like propositions, such entities as electrons will do nicely as theoretical tools until something better comes along.) Of course, to a great extent, a grammar is a description; but mere description is a sterile activity. Descriptive adequacy, which is necessarily a linguistic activity, must depend on tools that are not entirely linguistic themselves. Otherwise, it is a case of the cat chasing its own tail. Sentence analysis must be in terms not only of language, but of people in a living, thinking context of communication.

FOOTNOTES

[1]Noam Chomsky, Syntactic Structures (The Hague, 1957), p. 15.

[2]Ludwig Wittgenstein, Philosophical Grammar (Berkeley and Los Angeles, 1974), pp. 43 ff.

[3]Roderick A. Jacobs and Peter S. Rosenbaum, English Transformational Grammar (Waltham, Massachusetts, 1968), p. 4.

[4]Cf. Philip S. Dale, Language Development (Hinsdale, Illinois, 1972), pp. 50-53. Also, see Roger Brown, Psycholinguistics (New York, 1972), pp. 155-207.

[5]John R. Searle, Speech Acts (Cambridge, England, 1969), p. 25.

[6]Wittgenstein, p. 43; see also pp. 45-50.

[7]Michael Dummett, Frege: Philosophy of Language (New York, 1973), p. 4.

[8]Ibid., p. 2.

[9]Ibid., p. 5. (The problem of sense versus reference occupies a major portion of this work of almost seven hundred pages.)

[10]George Hemphill, A Mathematical Grammar of English (The Hague, 1973), p. 21. (Italics mine.)

[11]A few of Hemphill's techniques and ideas will be utilized, but many others will be altered due to differing interpretations; even where there is little disagreement, much in the way of new materials and explanations will be interwoven in the process of explication.

[12]D. Terence Langendoen, Essentials of English Grammar (New York, 1970), pp. 46-47. Arrangement of quoted material has been slightly altered for purposes of perspicuity; the second column of sentence examples, in Langendoen, occurs where the ellipsis is.

[13]Ibid., p. 49.

CHAPTER II

BASIC SENTENCE PATTERNS

Pattern One--Simple Subject-Predicate Sentences

Unmodified S-V Sentences

Schoolroom grammars unanimously cite as the simplest sentence
pattern that form which possesses a subject (with or without modifi-
cation) and a predicate (in which only the verb may be expanded), as
in the following cases:

$$\underset{\text{NP}}{\underline{\text{John}}} \quad \underset{\text{VP}}{\underline{\text{sleeps}}}. \tag{2.1}$$

$$\underset{\text{NP}}{\underline{\text{The small boy}}} \quad \underset{\text{VP}}{\underline{\text{is sleeping}}}. \tag{2.2}$$

Practically speaking, with regard to (2.1), this is a sound way to
begin categorizing sentences, if one is to avoid the problem of deciding
whether or not such forms as Oh? (=Do you think so?), Yes! (=I agree
with you!), Ah ha! (=So that's the way it is!), and the like are sen-
tences. However, (2.2) is more complex; it is a combination of (2.1)
and another pattern yet to be discussed. Likewise, all the other so-
called "simple" and complex patterns are actually expansions of the
first case above. Conversely, the pattern represented by John sleeps
can be viewed as the pattern to which all other patterns may be
reduced. The verb phrase in each case above is, in a sense, incom-
plete (i.e., there are possible presuppositions or implications which

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are left unexpressed). One could, for example, ask <u>How does John</u>

<u>sleep?</u>; and one answer might be <u>John sleeps soundly</u> or <u>John is sleeping</u>

<u>soundly</u>, a NP-VP-ADV sentence pattern. A sentence such as <u>Mary sings</u>

implies something like the following: <u>Mary sings well (poorly)</u>, a NP-

VP-ADV form, or <u>Mary sings songs</u>, a NP_1-VP-NP_2 (subject-verb-object)

form. Thus, the <u>John sleeps</u> type of sentence pattern might be called

the most primitive form, since it is really a part of the remaining

sentence patterns.

This pattern, nonetheless, affords an opportunity to apply logical

insights. In <u>John sleeps</u>, <u>John</u> is the argument (symbolized by a lower-

case letter from the beginning of the alphabet) and <u>sleeps</u> is the

function (logical predicate) which specifies a property or attribute

of <u>John</u>. That is, one can say of <u>John</u> that he sleeps. The function

is symbolized by a capital letter from the early part of the alphabet.

The whole sentence, then, is symbolized as

$$\underline{\text{John}} \quad \underline{\text{sleeps}} \qquad\qquad (2.3)$$
$$\text{a} \qquad\quad \text{F}$$

In logic, (2.3) would ordinarily be symbolized as either $F_{(a)}$ or F_a,

and if the formula had other complications in it, parentheses would

enclose the whole: $(F_{(a)})$. Often brackets, braces, and the like

replace one or more sets of parentheses to obtain better visual per-

spicuity. Since the main examples in this work will usually be set

off (centered) on the page, it will often be possible to dispense with

these logical symbols. Thus, in (2.3) spacing and labeled vincula per-

form the same services as parentheses. Logically speaking, the order

of these symbols is immaterial because, by the conventions adopted,

the juxtaposition of <u>a</u> and <u>F</u> reveals the logical, abstract structure,

whether written as F_a or $_aF$. Both usages will occur from time to time because by so doing the grammatical ordering can also be shown (sometimes) with the same symbols.

Adjectival Modification

The second sentence example (2.2) cited above, The small boy is sleeping, poses an added problem, for it is not possible to label it the way (2.3) was labeled--i.e., the subject as an a and the predicate as an F. The reason is that the sentence contains not one proposition, but two. They are: The boy is small (a predicate adjective sentence) and The boy is sleeping. The latter sentence is logically equivalent to both The boy sleeps and The boy does sleep, in that all three would be symbolized as $_aF$. (The semantic differences are being ignored here; only logical form is meant.) In fact, the sentence The boy is asleep could also be dealt with in the same manner, for it is not really a predicate adjective (as some might claim) in that sleeping and asleep both tell what the boy is doing. In any case, it make no difference, for the verb forms and the predicate adjective form are all predicates which specify the attribute of sleep for the argument boy. Tense, aspect, and emphasis are not considered because they are not essential to the problem at hand, and there is no satisfactory way yet available for dealing logically with them. (Some pioneering work in logic on matters of tense, mood, and voice is now going on, but so far the work has no immediate possible application to the grammatical analysis of sentences.) Thus, S-V sentences (e.g., John sleeps) and predicate adjective sentences (e.g., John is asleep and The boy is small) all have the same logical form, for the predicate in each specifies something about the subject. Traditional grammar is inconsistent in

this matter. The standard schoolroom handbooks claim that in a S-V sentence the subject is doing something; in the predicate adjective sentence, the adjective complements the subject in that it qualifies or describes the subject; the idea that the verb also qualifies or describes something about the subject is ignored. The single, most important element in a sentence is its logical predicate; everything else in the sentence relates to it.

From the foregoing it can be seen that <u>The small boy is sleeping</u> is a case of one proposition being embedded in another. The resultant formula should be more complicated, for the subject itself is a complete proposition acting as an argument with a logical function, thus composing a complex proposition. These facts may be schematized as follows:

$$\underbrace{(\ \underline{\text{The small boy}}\ \ \ \underline{\text{is sleeping}}.}_{b}$$

The outer parentheses (i.e., the sentence boundaries) can be deleted for simplification. What the analysis more specifically shows is that a complex predicate is operating on the argument <u>boy</u>.

If there is multiple adjectival modification, naturally there is even more complication. For example, the following sentence indicates four degrees of modification:

$$\underline{\text{The}\ \ \ \text{small,}\ \ \ \text{sturdy,}\ \ \ \text{handsome}\ \ \ \text{boy}\ \ \ \text{is}\ \ \ \text{ill}}.$$
$$(F_3\ \ \ (F_2\ \ \ (F_1\ \ \ \ \ a)))\ \ F_4$$

The <u>grammatical</u> ordering here is rather arbitrary, since all the adjectives (except, perhaps, <u>ill</u>) could replace each other distributionally.

The positioning of adjectives relative to one another in multiple
modification is largely a matter of intuition (if one omits quantifiers
and demonstrative words from consideration); at least, linguists have
not clarified this situation much. The notation in (2.4), the first
complex case above, could have retained an F_2 for is sleeping, just as
various F's have been used in the second complex example (2.5); but
the switch to G focuses on basic differences--i.e., verb versus
adjective.

A more interesting example of the ordering of adjectives occurs
when ambiguity is involved. Here, again, one must rely on intuition
if no extralinguistic context is available. Willard Quine, the
logician, notes the following case in which the ordering of the words
is not the key factor:[1]

$$\underline{\text{pretty}} \quad \underline{\text{little}} \quad \underline{\text{girls'}} \quad \underline{\text{camp}} \qquad \text{A girls' camp which is} \qquad (2.6)$$
$$F_2 \quad (\quad F_1 \quad (\qquad a \qquad)) \qquad \text{little and pretty.}$$

$$\underline{\text{pretty}} \quad \underline{\text{little}} \quad \underline{\text{girls'}} \quad \underline{\text{camp}} \qquad \text{A camp for little girls} \qquad (2.7)$$
$$F_2 \quad ((\quad F_1 \qquad) \qquad a \quad) \qquad \text{that is pretty.}$$

$$\underline{\text{pretty}} \quad \underline{\text{little}} \quad \underline{\text{girls'}} \quad \underline{\text{camp}} \qquad \text{A camp for little girls} \qquad (2.8)$$
$$(\quad F_2 \quad (\qquad F_1 \quad)) \quad a \qquad \text{who are pretty.}$$

In passing, it might be noted that using vincula to label significant
parts of a sentence has limited utility; the parentheses perform the
task much better, if one wishes to avoid double underlining and the
like. More importantly, the above examples indicate the primacy of
speech over writing, for if the stress markers and intonation contours
had been supplied, the ambiguities would have been resolved. That is,
stress and intonation perform the same service in speech that paren-
theses do here. Most schoolroom grammars ignore such factors and
treat sentences as though they were somehow already understood;

little or no attention is paid to speech signals and the social context

of an utterance. For example, the ambiguity of the following pair is

easily resolved by indicating the facts of speech even though the word

order remains the same:[2]

$$^2\text{Comic stri}^3\text{p artist die}^1\text{s.} \qquad (2.9)$$
$$\text{(F \quad (\quad a \quad)) \quad G}$$

$$^2\text{Comic strip artist}^3\text{die}^1\text{s.} \qquad (2.10)$$
$$\text{a} \qquad\qquad \text{F}$$

In (2.10), of course, there is no adjectival modification at all, for

comic strip artist is functioning as a compound noun argument; in (2.9)

strip artist is the compound noun modified by comic. From these

examples it is clear that the ordering of stress and intonation per-

form the same service as word order does in other cases. Of course,

only recourse to context can explicate some sentences--written or oral;

an example is The rabbit is too hot to eat.

Existence

Before closing this section, it is necessary to make a decision

about a very knotty problem: the function of the copula in simple

subject-verb patterns. It has already been noted, in The boy is

sleeping, that the copula serves no logical purpose except that it

might be regarded as a substitute for parentheses which signal the

onset of a predicate function. Of course, the copula does perform

certain grammatical functions in that it indicates tense, person,

progressive aspect (with -ing), and number, but not necessarily any

or all of these in any particular case. Thus, the copula often seems

to have no lexical meaning. But what of a sentence such as God is?

As mentioned at the beginning of this section, such a sentence seems
to be unfinished. One would expect that it implies something like
God is good (a simple aF form), God is everywhere, God is Jehova,
and the like. Nonetheless, such an expression as God is occasionally
occurs where no specific modification, apparently, is intended; i.e.,
the sentence is regarded as complete. For this reason, in this text
existence will be assumed to be a logical predicate (for in saying
that God is, one is saying God exists), in spite of the fact that many
logicians refuse to acknowledge existence as a predicate. Their argu-
ment would be that to say of something that it exists is, in fact, to
say nothing about it; that is, if one agrees that there is some object,
one has not said anything about that object until he predicates some-
thing of the object. Intuitively, however, most speakers of English
and many other languages would disagree. The logician has a point,
though; take, for example, the expressions God is everywhere and God
lives; some speakers might possibly translate these, respectively,
as God exists and God is (alive), yet both of these are simple aF forms.
It is possible, of course, to interpret God is everywhere as God lives
everywhere; such locative expressions will be discussed later. Those
logicians who do accept existence as a predicate have developed a
rather elaborate and abstruse symbolism to express it, which results in
formulas that are too formidable for the purposes of this paper. The
solution adopted here, with some misgivings, is to follow the lead of
English and just label existence verbs (e.g., be, seem, appear, become)
with F, or some other function symbol, as long as no further predication
occurs. Even these verbs are often used otherwise; hence, the problem
of existence will seldom be encountered in its "pure" form. The sentence

God is is formalized as

$$\underset{a \quad F}{\underline{God} \; \underline{is}}, \qquad\qquad (2.11)$$

if no further predication occurs.

Pattern Two--Predicate Adjective Sentences

The Standard Form

Sentences of this pattern are called predicate adjective sentences in traditional grammar. Such sentences are symbolized exactly like pattern one sentences for the reasons set out in section one. Hence, a sentence with a predicate adjective is of the form

$$\underset{a \quad F}{\underline{Max} \; \underline{is \; tall}}. \qquad\qquad (2.12)$$

The copula is not considered separately as a category because it performs no logical service; it could be considered as a kind of symbol whose purpose is to separate the subject from the predicate, but this does not seem to be the intention. The intention seems to be to provide a word which can carry the necessary grammatical information--in this case, number, person, and tense. Some languages, such as Chinese, merely juxtapose the two elements: Max tall; such a procedure is often used by very young children who are just learning to speak English; and the so-called Black Dialect of American Negroes also exhibits this phenomenon. These facts plus the fact that traditionalists also treat the subject and predicate adjective as being in complementation leaves the copula stranded semantically--it has no meaning except, perhaps,

for existence; so, in essence, one may regard pattern two as a very slight extension of pattern one.

Definition, Categorization, and Incomplete Predication

The reader may wonder why one should establish a predicate adjective pattern—that is, from a logical point of view. The answer, which the rest of this section embodies, is that the copula is often a reduced form of a longer sentence from which the true verb has been deleted; the copula in such cases can be said to stand for the lost verb. Furthermore, many sentences which have traditionally been classified as predicate adjective forms are not predicate adjective sentences at all. But if one is going to depart from tradition, one must, nevertheless, depart from familiar territory. For this reason, there will be much in this section that takes off from the idea of a predicate adjective, but which extends in various logical directions. In the process, it will be found that many so-called predicate adjective sentences are misconceived from a definitional point of view; and since the definition is wrongly applied in many cases, that means that the traditional analysis is chaotic. Hence, several sentence types will be distinguished and discussed in this section and will be referred to innocuously as "pattern two" types, which the traditionalist associates with the predicate adjective pattern, and in this manner a certain degree of unity may be attained.

Over forty years ago George Curme, in an eminent, scholarly, traditional grammar, pointed out that the copula (and certain other copula-like verbs) often are verbs of incomplete predication,[3] as in The dog is (= is lying) on the porch. (Of course, this is not a

predicate adjective sentence.) So, we see that be can be used exis-

tentially and as a substitute for a deleted verb. Thus, when one

symbolizes the above (ignoring the prepositional phrase for now) as

$$\underset{\text{a} \quad \text{F}}{\underline{\text{The dog}} \ \underline{\text{is}} \ \text{on the porch,}} \qquad (2.13)$$

which accords with the schema at the end of section one, one is

actually symbolizing

$$\underset{\text{a} \quad \text{F}}{\underline{\text{The dog}} \ \underline{\text{is lying}} \ \text{on the porch.}} \qquad (2.14)$$

One can thus see very easily why many logicians regard the concept of

existence with suspicion.

Besides be, other verbs often serve to establish a bridge between

the subject and its predicate adjective modifier. Compare the

following:[4]

He became ill.	He fell ill.	(2.15)
He appeared ill.	He was taken ill.	(2.16)
He remained ill.	He seemed ill.	(2.17)
He grew ill.	He waxed ill.	(2.18)
He is (= ranks) high in the community.	He stands high in the community.	(2.19)
This fur is soft.	This fur feels soft.	(2.20)
The cow was (= ran) dry.	The cow became dry.	(2.21)
He is still.	He keeps (= remains) still.	(2.22)
The offer is still good.	The offer still holds good.	(2.23)

These types are hard to analyze logically. The linking verbs, in many

cases, aside from indicating the grammatical properties of tense,

number, and person, seem to carry meanings of their own like be in

its existential aspect. This assumption, however, may be illusory.

For example, in He appeared ill, the sentence may be interpreted as

meaning: someone looked at him, and his looks (features) had all the

properties one usually associates with illness; i.e., <u>His looks were</u> <u>bad</u> or <u>He looked ill</u> (to someone), both <u>aF</u> forms. Similar reasoning can be applied to the other cases above, and this technique will be used in later examples. Thus, the <u>aF</u> form is assigned to these types, just as it was to the standard form in (2.12), <u>Max is tall</u>.

Adjectival Modification of Direct Objects

Traditional grammarians sometimes, mistakenly, also classify a direct object modifier as a predicate adjective, as in <u>It made him</u> <u>angry</u>.[5] (Other <u>make</u>-sentences will be handled differently than this one; see Chapter III.) The proposition in the above sentence is equivalent to <u>It angered him</u>. The word <u>make</u> seems to be functioning as a quasi-auxiliary (of which more will be said later); aside from carrying the grammatical burden of indicating tense (and number and person in the present tense), it appears to indicate the semantic idea of causation. The main verb, though, is clearly <u>to anger</u>. <u>It made</u> <u>him angry</u> is a transformational extension of <u>It angered him</u>. This example affords an opportunity to introduce the symbols for terms and relations, for this sentence has two arguments, <u>it</u> and <u>him</u>. (<u>It</u> and <u>him</u> are, of course, themselves variables in English standing for nouns just like the logical symbols used here; but one can easily substitute meaningful words for these variables, so no confusion arises.) <u>Angered</u> is a relation (as opposed to a function) because it not only specifies the source of the anger, but it also specifies a quality of the direct object <u>him</u>, which is easily seen when the sentence is transformed to <u>It made him angry</u>. This sentence, then, is not a predicate adjective pattern; it is a different type of the form indicated below:

$$\underline{\text{It}} \quad \underline{\text{angered}} \quad \underline{\text{him.}} \tag{2.24}$$
$$t_1 \qquad 2^R \qquad t_2$$

The subscripted $\underline{R}$ indicates a two-place predicate relation; the two $\underline{t}$'s indicate the terms upon which the relation operates.

Grammarians often ignore the logic of a sentence in favor of comparing, as it were, words to words. The reader, perhaps, has not been offended too much by the analysis above because, fortunately, the verb to $\underline{\text{anger}}$ exists in the language. It is when one cannot find such a fortuitous circumstance that one is tempted toward the linear, word-by-word approach. For example, essentially the same sentence from another book may be noted.[6] Here, the author, David Conlin, substitutes for the variables, respectively, $\underline{\text{the news}}$ and $\underline{\text{me}}$; and $\underline{\text{made happy}}$ replaces $\underline{\text{made angry}}$. Note that the only significant change is a semantic one concerning opposites--anger versus happiness. According to the author, "the adjective $\underline{\text{happy}}$ is a complement not of the subject, . . ., but of the object $\underline{\text{me}}$."[7] Yet, the proposition must, in an abstract sense, be of the same form as that for $\underline{\text{It angered him}}$. Just because no one has seen fit to derive a verb from $\underline{\text{happy}}$ does not mean that the essential concepts do not follow the same reasoning and ordering. This is not an argument in favor of an underlying order of thoughts; it is an argument for simplification (economy) in analysis. In all of science, it is a rule of thumb that, generally speaking, that theory which can explain the most facts of a case with the least amount of supposition and methodological paraphernalia is the best theory. Conlin's explanation above (and Curme's which is essentially the same), it is here maintained, is too circuitous; it lacks explanatory power. The explanation here proposed, it is believed, is simpler

and accords with the concepts contained in the proposition. Thus, It made him angry and The news made me happy, as shown above, are both of the form $t_{1\ 2}R\ t_2$.

The reader has noticed earlier how there was a certain amount of overlapping between sentence pattern one and sentence pattern two. Now, it can be seen that sentence pattern two, likewise, overlaps into a pattern that remains to be discussed—namely, the subject-verb-direct object pattern. It is contended that if this sort of thing continues (and it will) as the remainder of the patterns are taken up, then the evidence will be highly suggestive of a cohesive, well-knit system which one is, of necessity, forced to study piecemeal, pattern by pattern.

Predicative and Attributive Adjectives

It has been shown in various examples how adjectives may be expressed attributively and predicatively. In trying to contrast these two modes of expression, Hemphill notes that they may be distinguished by Fa for attribution and aF for predication, respectively, as follows:[8]

$$\underline{\text{Lear's marriageable}}\ \text{daughters} \qquad (2.25)$$
$$Fa$$

and

$$\underline{\text{Lear's daughters}}\ \underline{\text{are marriageable}}. \qquad (2.26)$$
$$aF$$

But he then notes that an argument may be flanked on both sides by attributive expression:

$$\text{the }\underline{\text{marriageable}}\ \text{daughters}\ \underline{\text{of Lear}}. \qquad (2.27)$$
$$F_1aF_2$$

This is a serious blunder, for Hemphill has failed to note that there are two operations implied: The daughters are Lear's operates on the proposition The daughters are marriageable, both in themselves aF predicates. Thus, a more correct formulation would be the complex predicate

$$\underbrace{\underline{\text{Lear's daughters}}}_{b} \;\; \underline{\text{are marriageable,}} \qquad (2.28)$$

$$(\;\; F_1 \qquad a \;\;) \qquad\qquad G$$

where the whole proposition, Lear's daughters, behaves as if it were an argument operated upon by the function G.

Comparison

Adjectives also serve to indicate degrees of comparisons. It has been noted that a sentence like Bryan is young is of the form aF. What of a sentence such as Bryan is younger? This is not a predicate adjective sentence, as it superficially seems to be, nor is another clause implied, as traditional theory would claim. Since this sentence looks in form like a predicate adjective sentence, this section is a more or less appropriate place in which to discuss it. The first thing to note is that the propositional structures of the young and younger sentences are not the same. This can easily be seen when one recognizes that the latter sentence makes no sense (is not a sentence) unless one knows who is older than Bryan. Actually, the same objection could be said of Bryan is young, for it might have been said of Bryan (age sixty-five) by his ninety-year-old uncle. (This observation is due to Professor R. T. Radford.) In conversation where the speakers are aware of the total topic of discussion, it is, of course,

permissible to delete obvious information. If the information is
supplied, the elliptical nature of the sentence disappears:

$$\underset{\underset{1}{t}\quad\underset{2}{^R}\quad\underset{2}{t}}{\underline{\text{Bryan}}\ \underline{\text{is younger than}}\ \underline{\text{Mark}}.} \qquad (2.29)$$

Thus, the sentence above is actually a two-place predicate relation.
(Without knowledge of $\underline{\text{Mark}}$, a zero symbol, $\emptyset$, would replace $\underline{\text{Mark}}$ in
this notation.) Such an analysis is superior to those usually given
in traditional grammar (and elsewhere) because it implies a greater
degree of equality between the words represented by the terms. That
is, both $\underline{\text{Bryan}}$ and $\underline{\text{Mark}}$ may be considered as subjects or objects.
The relation says something about both of them: that Bryan is not as
old as Mark, and, by implication, that Mark is older than Bryan.[9]
The usual analysis is that the sentence is made up of two clauses where
the second one is reduced: $\underline{\text{Bryan is younger than Mark (is young)}}$, which
makes very little sense to this writer because he believes that few,
if any, native speakers of English would accept this string of words
as a sentence. In addition, such an analysis seems to attach a somewhat
secondary importance to $\underline{\text{Mark}}$. $\underline{\text{Mark}}$ is (or could be, at least in certain
contexts) just as much a primary topic of discussion as $\underline{\text{Bryan}}$, con-
sidering the fact that little or no sense exists unless the comparison
between the two is made. A major fault of traditional grammar is that
it views all sentences as being cast into the subject-predicate mold.
Consequently, the following sentences are all logically equivalent:

$$\underset{\underset{1}{t}\quad\underset{2}{^R}\quad\underset{2}{t}}{\underline{\text{Bryan}}\ \underline{\text{is younger than}}\ \underline{\text{Mark}},} \qquad (2.30)$$

$$-(\underset{\underset{1}{t}\qquad\qquad\underset{2}{^S}\qquad\qquad\underset{2}{t}}{\underline{\text{Bryan}}\ \underline{\text{is not as old as (is not older than)}}\ \underline{\text{Mark}}},) \qquad (2.31)$$

and this implies the reverse

$$\underline{\text{Mark}} \ \underline{\text{is older than}} \ \underline{\text{Bryan.}} \qquad (2.32)$$
$$\quad t_2 \qquad \quad _2S \qquad \quad t_2$$

In (2.31), a dash is used to symbolize logical negation of the entire proposition. Expressed in English, this would translate as <u>It is not the case that Bryan is as old as Mark</u>. In comparing (2.31) and (2.32), it can be seen that the reason they are logically equivalent is due to the manipulation of the dash and <u>-er</u>; thus, in English the comparative sign <u>-er</u> functions as a logical sign (just as does <u>not</u>) in addition to its grammatical function indicating equivalence semantically with <u>more</u>.

Class Membership and Class Inclusion

Two final examples are of some interest. Traditional grammar would classify the following two sentences as predicate adjective patterns:

$$\text{Socrates is mortal.} \qquad (2.33)$$

$$\text{All men are mortal.} \qquad (2.34)$$

These two sentences, however, are not the same. In (2.33), <u>mortal</u> is not being used (at least primarily) to specify a property or attribute of Socrates. It refers, rather, to a <u>class</u> of things which themselves have a common property, namely that of dying; and this sentence therefore refers to a <u>member</u> of this class. Thus, the proposition is: there is a man called Socrates and he is a member of the class of entities which must die. This relationship can be symbolized: s ϵ M. The episilon is the logical sign of class membership. The small <u>s</u>

represents a certain member, and the capital <u>M</u> represents a class. In

(2.34), the situation is different because of the logical word <u>all</u>

whose scope in the sentence covers just men. That is, <u>All men</u> refers

to the <u>class</u> of men (all its members). Therefore, in this case what

is being posited is that one class is contained in another class,

which can be symbolized as X⊂Y, where <u>X</u> and <u>Y</u> refer to <u>All men</u> and

<u>mortal</u>, respectively, and the "horseshoe" refers to proper class

inclusion, often read as "X is a proper subset of Y." If it were the

case that men were the only mortal things, then the horseshoe would

be underlined to indicate absolute inclusion and would be read as "X

is a subset of Y"; this reading refers to a kind of equality in the

trivial sense that a set is always a subset of itself. Adding the

proper logical symbolism, these two sentences are represented thus:

$$\underline{\text{Socrates is mortal}} \atop \text{s} \quad \in \quad \text{M} \qquad (2.35)$$

$$\underline{\text{All men are mortal}} \atop \text{X} \quad \subset \quad \text{Y} \qquad (2.36)$$

Note that it is a peculiarity of English that (2.36) could also be

worded <u>Men are mortal</u> or <u>Man is mortal</u> (where <u>all</u> is implied).

It is a remarkable fact that these important distinctions have

been known and discussed in logic and mathematics since the time of

the publication of Frege's <u>Begriffsschrift</u> in 1879, but they have made

little impact on grammatical theory. In fact, the examples noted

above appear in almost all logic textbooks. So far, four usages have

been noted for the copula: (1) existence function, (2) predicate

adjective function, (3) class membership relation, and (4) class

inclusion relation. There is still another relation indicated

by the copula, and that is identity (or equality), which is taken up
in the next section.

Pattern Three--Predicate Nominative Sentences

Equality

In traditional grammar this sentence pattern is called subjective
complement in the subcategory of predicate nominative form. In this
kind of sentence, the copula logically relates an identity (equality)
existing between things on either side of the copula; i.e., the copula
indicates that the words which flank the copula are in some sense
equal--have the same referent. In mathematics the equality sign is
used to indicate this relation as in the equation 2+2=4. The equality
sign will be borrowed here to indicate formally the structure of
predicate noun sentences. This is easily done as is seen in the
following example:

$$\underline{\text{Mark Twain}} \quad \underline{\text{was}} \quad \underline{\text{Samuel Clemens}}. \qquad (2.37)$$
$$t_1 \qquad\quad = \qquad\quad t_1$$

Actually, as in mathematics, since two different words are used to
indicate the referent, two different logical terms should also be
employed. This degree of sophistication is unnecessary when the
sentence occurs labeled logically as above; if only logical formulae
were being cited for sentences, then the added sophistication would be
mandatory. In later examples when two or more formulas occur in a
larger construction with terms in co-reference, separate terms will
sometimes be used to display the logical structures of the separate
formulas. In the above formula, the equal sign is redundant, for

equality is shown by the identical subscripted numerals on the terms.
It will prove useful, however, to retain this redundancy. Alternatively,
one could have written the above formula with just the equal sign,
deleting the subscripted numerals. The reason for using both the equal
sign and identical subscripted numerals can be seen in the following
pair:

$$\underset{t_1 \quad t_1 \quad = \quad \quad t_1}{\underline{\text{He}} \ \underline{\text{himself}} \ \underline{\text{was}} \ \underline{\text{Samuel Clemens}}.} \qquad (2.38)$$

$$\underset{t_1 \quad {}_2R \quad t_2 \quad \quad t_1}{\underline{\text{He}} \ \underline{\text{sent}} \ \underline{\text{a letter}} \ \underline{\text{to himself}}.} \qquad (2.39)$$

In (2.38), the equality relation is a predication of identity among
the terms. In (2.39), there is no equality relation involving a
letter.

Other copula-like verbs may be formalized in the same way as (2.37):

$$\underset{t_1 \quad = \quad \quad \quad \quad t_1}{\underline{\text{He}} \ \underline{\text{became (=remained)}} \ \underline{\text{Mark Twain}} \ (\text{to his readers}).} \qquad (2.40)$$

Pattern Ambiguities

Occasionally, sentences that are predicate nominative in gram-
matical form are actually predicate adjective propositions. For
example, in He was fool enough to believe her, fool seems to be a
noun. What is logically meant, however, is

$$\underset{a \quad \quad F}{\underline{\text{He}} \ \underline{\text{was foolish}}. \ . \ . \ ,} \qquad (2.41)$$

if one ignores the remainder of the sentence.

As seen in (2.37) and (2.40), the predicate nominative sentence
pattern is easy to deal with. But (2.41) shows that what is, in fact,

a predicate nominative sentence pattern is not always easy to recognize.

Indeed, most of the examples of the predicate nominative pattern cited

in the standard handbooks on grammar are not predicate nominative

relations at all. The definition usually given agrees with that offered

at the beginning of this section, but there is confusion in application

of just what constitutes equality. For example, in a book described as

an "enlightened traditional grammar," the authors cite He turned

plumber as a case where a verb not usually considered to be copulative

has, in fact, become so. They also cite He has gone Democrat/Socialist

as another case.[10] While **their** discussion of the semantic peculiarities

of the verbs in these sentences is reasonable and enlightening, the

fact remains that the relation of identity or equality between subject

and complement is simply not maintained. Both sentences are cases of

the relation of class membership. If one juxtaposes Mark Twain was

Samuel Clemens with Sam was a plumber, and reflects carefully, the

distinction should be clear. The terms in a logical formulation of

the first sentence would be identical, while the terms designating Sam

and plumber in the second sentence would be different.

The situation is not improved in a book devoted to a structural

linguistic approach (with transformational insights added at times);

the author, in one example, cites The Indians were the winners.[11] This

is clearly a case of class inclusion, for what it implies is that all

Indians involved in a certain contest (e.g., a battle or a football

game), as a result of their victory, entered the ranks of the winners.

But winners is a larger class which includes all those people who

ever win anything (not necessarily battles or football games). Even

if winners only implies a single, specific contest, it is difficult

to see how the properties that comprise being Indians is equal to

those properties that belong to winners. If one insists that Indians

and winners designate the same referent, this still leaves open the

question of the relationship between the subject and the complement.

In other words, Indians does not equal winners in the same sense that

Twain equals Clemens. In the latter case, there is only a change of

name for exactly the same thing.

The same mistaken ideas occur even in recent grammars purporting

to teach the "New English." As an instance, in one transformational

textbook that introduces Charles Fillmore's case-grammar approach,

the first example of a predicate nominative pattern that is given is

Ruby is a soprano.[12] Here again is a case of class membership relation-

ship; i.e., Ruby is one of those people who sing soprano. A more

interesting example cited by the same source, however, is Alcohol was

Harry's downfall.[13] Equality does not seem to be meant here at all in

any sense; again the grammarian is paying too much attention to the

grammatical form and not enough attention to the propositional content.

What the sentence seems to mean is that Alcohol caused Harry's downfall;

thus, this sentence, logically speaking, would fall into the category

the grammarians call subject-verb-object formulation, which will be

taken up in the next section. Its symbolization is quite straight-

forward; ignoring the problem of modification, it is

$$\text{Alcohol}_{t_1} \text{ was (=caused)}_{2^R} \text{ Harry's downfall.}_{t_2} \qquad (2.42)$$

It has been noted earlier that the copula can often stand for a deleted

predicate. The passive form, Harry's downfall was (caused) by alcohol,

would also seem to support this analysis. The passive form of the

sentence may be symbolized as

$$\underset{t_2}{\underline{\text{Harry's downfall}}} \underset{{}^{*}_2 R}{\text{was caused}} \underset{t_1}{\underline{\text{by alcohol}}}, \qquad (2.43)$$

where the starred $\underline{R}$ indicates that the passive transformation has been
performaed. (The asterisk is used to label deviant forms in the
object language; in the logical language--i.e., the logical symbolism--
it denotes passivity.)

Just as some so-called predicate nominative sentence pattern forms
are actually direct object forms, so, conversely, some seemingly direct
object forms are rather similar, but not identical, to predicate
nominative forms. Indeed, using these grammatical terms causes some
problems as far as the description of the propositional content is
concerned. In a sentence such as $\underline{\text{He hit himself}}$, the objective case
of the masculine reflexive pronoun $\underline{\text{seems}}$ to reveal the native
speaker's intuition that subject and object may both designate the
same referent--i.e., the subject may act on itself. But this line of
reasoning is shaky because the nonstandard form $*\underline{\text{He hit hisself}}$ uti-
lizes a reflexive pronoun to indicate possession (which is semantically
possible) and, apparently, also object. Logically, forgetting
momentarily about such concepts as "subject" and "object," the sentence
can be said to predicate a relationship between $\underline{\text{he}}$ and $\underline{\text{himself}}$, namely
that of hitting, which is of the form

$$\underset{t_1}{\underline{\text{He}}} \underset{{}_2 R}{\underline{\text{hit}}} \underset{t_1}{\underline{\text{himself}}}. \qquad (2.44)$$

Thus, logically, what is indicated in the symbolism is a two-place
relation involving identical terms. No equality or identity (=) is

indicated in the predication, but only in the terms (which proves the earlier contention that such "redundancy" can be useful). The use of identical terms reveals that this is not a subject-verb-object sentence. All talk of "subject" and "object" and the like seems merely to cloud the issue. (Note that grammarians accept as standard possessive forms such as I hit myself, yet not *He hit hisself; they accept He hit himself, but not *I hit meself.) The logical formulation above seems to reveal more adequately the major syntactic and semantic ideas than does a strictly grammatical analysis which tries to explain these pronoun usages in terms of "case."

The above examples and explanations seem to support Frege's and Wittgenstein's contentions that a word's meaning, in the final analysis, is indicated by the way it is used in a sentence logically. Grammarians try to explain the variant pronoun usages above by recourse to semantics and grammatical case; obviously, it often simply does not work. A good case is the instance where the form I'm him is gradually replacing I'm he. Although both of the sentences mean exactly the same thing—i.e., a predicate nominative equality—some grammarians are beginning to accept the formerly nonstandard him form on the semantic basis that speakers think of the pronoun as an objective referent. This is strange reasoning since the same grammarians still do not accept the possibility of the speaker meaning possession in *He hit hisself. Again, it is the propositional content as a whole which must be considered, for it comes closer to explicating the true syntactic nature of the sentence than does an analysis which begins with attention first to the outer form. It is rather a case of a native speaker saying: "I know what I mean, and so do you, even though I know that

the form of my utterance makes very little, if any, sense." Patterns

change; it does little good to analyze a sentence or word sometimes

only in terms of its changed form, if the meaning has not changed

appreciably. One form has simply replaced another form. If one chooses

to use It's me instead of It's I, it is not a case of grammatical

change; it is a matter of usage only. It could be, of course, that

speakers are coming to interpret the focus or stress somewhat differently

(conceptually) in these cases, but there is no convincing evidence that

this is so. Even if it were true, it is still more a matter of rhetori-

cal style than it is either of grammatical or logical change; after all,

what essential difference is there in the semantics of, e.g., He hit

himself and *He hit hisself?

A case similar to those above is the sentence That is mine, which

grammarians also classify as a predicate nominative form.[14] But this

sentence clearly does not say that the referent is equal to the relatum;

it says, rather, that whatever the referent is, it belongs to me;

hence, this sentence deals with the relation of belonging (possession):

$$\text{That} \quad \text{is} \quad \text{mine.} \qquad (2.45)$$
$$t_1 \qquad {}_2R \qquad t_2$$

If constants are substituted for the variables, this becomes obvious:

$$\text{That book} \quad \text{belongs} \quad \text{to me.} \qquad (2.46)$$
$$t_1 \qquad {}_2R \qquad t_2$$

or

$$\text{I} \quad \text{own} \quad \text{that} \quad \text{book.} \qquad (2.47)$$
$$t_1 \quad {}_2R \qquad t_2$$

What results, then, in grammatical terms, is a subject-verb-object

sentence pattern. The copula is substituting for a verb indicating a

relation of possession between a term of ownership and a term of that

which is owned. If this analysis seems unconvincing, the only other

logical possibility is

$$\underset{a}{\underline{\text{That}}} \ \underset{F}{\underline{\text{is mine}}}, \qquad\qquad (2.48)$$

which corresponds to the child-language expression, <u>That mine</u> (or <u>That</u>

<u>book mine</u> or simply <u>Book mine</u>). Now, the copula has reverted to its

usual tasks of indicating only tense, person, and number. In any event,

whichever logical analysis one prefers, it is superior to the predicate

noun analysis or the predicate adjective analysis (if one believes that

possession only is being stressed); for the predication in both logical

formulations indicate the thing possessed and the idea of ownership.

The predicate noun sentence <u>Boys will be boys</u> poses an interesting,

though trivial, problem. Ignoring tense, this sentence can be viewed in

two ways. It is, of course, a case of class inclusion--the trivial case

where any set is a subset of itself (<u>all</u> boys is the implication in both

the subject and the predicate). But it is also a case of equality, for,

obviously, <u>all boys=all boys</u>. Hence, the choice of symbol should be

dictated by <u>exactly</u> what is being stressed. This sentence shows the

probable reason for grammarians having included these two different

sentence types in one category, for they overlap when the logical

word indicating universal quantification occurs.

A more interesting case similar to the above can be illustrated

by the following pair:

$$\text{Wardens are guardians} \qquad\qquad (2.49)$$

and

<div align="center">

Policemen are guardians. (2.50)

</div>

In both instances, of course, one observes cases of class membership.
However, what interpretations should be assigned to the following pair?

<div align="center">

Wardens are policemen (2.51)

</div>

and

<div align="center">

Policemen are wardens. (2.52)

</div>

The problem is purely semantic, perhaps, but one wonders. In some
sense, wardens _are_ policemen, and so this would be a case of a class
relation of membership, but are policemen wardens? Certainly, they are
guardians of the law (hence, society), but they are not guardians of
a prison. This is a good example of what the logician means when he
says a sentence's interpretation depends upon its truth conditions--
i.e., a situation in the world or possible world (e.g., mythological)
which would establish its truth or falsity. This is not a trivial idea
if one, as does the present writer, believes that (1) truth conditions
establish the possibility of logical structure, (2) logical structure
precedes and to a great extent establishes the foundation of possible
syntactic structures, and (3) syntactic choices are largely a matter
of social conditioning. For example, in English one can say _Policemen_
are guardians (= class membership), but one cannot say _Policemen are_
wardens, even though wardens are guardians (unless one is considering
wardens of a prison to be policemen; even then, however, the statement
is false because _not all_ policemen are wardens; some walk beats. Hence,

since wardens is a subset of guardians, they are unequal and therefore not a true predicate nominative in Wardens are guardians; and since (all) Guardians are wardens is obviously false, this sentence is not only not a predicate nominative, but absurd; for these reasons, one must conclude that Policemen are wardens is not a sentence at all and, thus, is not amenable to analysis! The problem exists because the universal quantifier, all, is implied with both nouns. The point of all this is that if the grammarian insists Policemen are wardens falls into a certain sentence pattern (predicate nominative), then what means did he use to establish this conclusion? Form alone seems to be the answer, for it is not true to say that All policemen are all wardens, nor is the converse true either! If neither of the referents refer to each other, then how could such a sentence be a predicate nominative according to the traditional definition? How could it be a sentence at all, since no rational thought is conveyed by it? If form alone establishes a sentence pattern, then the view that meaningful utterances are simply forced into common, existing patterns seems justifiable. A compromise seems advisable: logical form helps to establish syntactic form, but it is also probably true that visible cause-effect relation- ships in the world help to establish syntactic and logical structures (e.g., subject-object, argument-function); "nonsense sentences" or careless locutions are just "adjusted" to fit into one or more of the commonly used patterns, which were themselves developed according to the more normal procedures that are being outlined in this work. As an example, one may consider the so-called "idiom," They danced rings around us. It is probably true that the object rings derives from the form, physically, of the activity of dancing itself, as in They danced

in rings around us, where in rings would traditionally be interpreted
as a locative adverb closely modifying (describing) something about
the dancing itself; the phrase could, of course, be a manner adverbial
according to traditional theory. But the form of the first version,
traditionally, is simply subject-verb-object-locative adverb. Logically
speaking, the true verb idea is danced rings or danced rings around,
for the activity (hence its meaning) is dancing and ringing and
rounding, all simultaneously, of course. Thus, logically, the sentence
is a traditional subject-verb-object (or adverb, depending on how one
interprets us): They+danced rings around+us or They+danced rings+
around us.

Paraphrase and Metaphor

In sentence analysis, it is often difficult to see how one is to
avoid paraphrasing. It is a temptation to restrict one's analysis
to form almost entirely in order to maintain an empirical basis,
classifying careless locutions and idioms as just "deviant," but this
will not do; for, as has been seen numerous times, so-called standard
sentences often pose just as many problems as do deviant ones. Some-
where midway between standard and deviant lies the "metaphor" sentence,
which is quite common in everyday speech and which is exploited to the
nth degree in literary forms. A sentence may be entirely metaphoric,
as in the title to the recent book by the movie actor, David Niven:
The Moon's a Balloon (N.Y.: Dell Publishing Col, 1974). Not only does
the title not make sense (in the usual meaning of "sense"), but nothing
in the book supports a rational interpretation of the title. Yet,
there is a (humorous) sense of sorts which defies logical explanation.

If one wishes to analyze such a sentence grammatically, form seems to
be the only "reasonable" recourse; though calling such a sentence a
predicate nominative pattern, or equality, certainly seems to be
stretching things. Fortunately, most metaphoric sentences are only
partly metaphoric, as in Ambrose was an ass, where Ambrose refers to
a human male. This sentence, like the former one, is usually classified
as a predicate nominative pattern. However, the meaning, paraphrased,
seems to be Ambrose was a fool. If this is the case, then the same
analysis (predicate nominative = class membership) applies. But con-
sider the meaning in its social context. One could say that since an
ass often seems foolish to humans (in a particular ass-like way),
people have just taken to substituting the word ass for fool. Yet,
it was noted earlier in this paper that fool seems to carry the force
of the adjective foolish. That is, paraphrasing, one could say
equivalently that Ambrose was a foolish person. Since, in this sentence,
Ambrose is clearly a member of a class of persons (fools), and since
this information is not important to the meaning of the sentence, a
more reasonable interpretation would appear to be that

$$\underline{\text{Ambrose}}\ \underline{\text{was}}\ \underline{\text{foolish}}, \qquad\qquad (2.53)$$
$$\quad\ a \qquad\quad\ F$$

a traditional predicate adjective pattern, where the force of all that
is meant in the predication is foolish. The assumptions seems to be
that there is a person of whom it may be said that he displays the
properties of foolishness (foolish in the way an ass is). Thus, Ambrose
was an ass is of the form of class membership logically, but of the
predicate adjective form semantically. If ass (or fool) are merely
reduced forms of asslike (or foolish), then it may be that Ambrose was

an ass (or Ambrose was a fool) are derived by transformations which con-
vert nouns to adjectives or adverbs (cf. The chimpanzee was manlike
in his actions and The man trotted doglike down the street). If one
wishes to argue the case more "logically," then transformational feature
analysis may be used to explain the metaphor; one can say that ass is
"marked" semantically and grammatically--e.g., [+ metaphor, + foolish
+ adjective, + human, - noun] and so on. Such an analysis does not
seem advisable in terms of the theory operating in this work, namely
that no such forms as nouns or adjectives exist in the so-called deep
structure; if there is a deep structure, only ideas exist there,
suggested by surface experience; those forms which one identifies as
noun, adjective, etc. are surface methods of distinguishing meaning
usage overtly; it seem absurd, e.g., to insist that -ish (suffixed on
fool) exists in deep structure. If [+ noun] had been inserted above,
the sentence would have been written as Ambrose was an ass in which the
proposition indicates that there was a thing called Ambrose, and that
thing was a person, and that person was a fool or foolish; as the reader
can see, when one tries to state the proposition, either the noun fool
or the adjective foolish comes to mind; this in itself would seem to be
evidence against the theory of underlying nouns and adjectives as
distinct parts of speech, in any formal sense, that is.

Pattern Four--Direct Object Sentences

Form Versus Meaning

This type of sentence is usually called the subject-verb-direct
object (S-V-O) form, though, as will be seen, this category comprises
several rather different types of sentence patterns when considered

from the logical point of view. The name "object" derives from the fact that the verb is said to act upon something, and this something thus receives (is the object of) the action of the verb. This type of analysis leaves a lot to be desired logically, for not all verbs express action, nor when they do is it necessarily the action of the subject. Such a sentence is <u>Mary hears Jack</u>; <u>Mary</u> is the passive recipient of <u>Jack's</u> acting (talking). The confusion arises from the grammarians' insistence on classifying the so-called object as part of the predicate, but not realizing that something is also being predicated of the so-called subject. A sentence which <u>would</u> accord with the grammarians' intuitions and definition is

$$\underline{\text{People}}_{t_1} \quad \underline{\text{eat}}_{2^R} \quad \underline{\text{food}}_{t_2}. \qquad (2.54)$$

Grammarians <u>are</u> correct in classifying such a sentence as being of the same form as <u>Mary hears Jack</u>, for they are both two-place relations, but the grammarians' conceptions of subject and object reveal inadequate explanatory power in their theory of grammar. And since structural and transformational grammarians also speak (often) of subjects and objects, their theories are similarly lacking in explanatory power.

Subject-predicate thinking, in the traditional Aristotelian sense, tends to make a grammarian see a sentence, more or less, in the way in which it is written--i.e., from left to right, linearly, (in all modern European languages). Thus, the purely abstract character of logical propositions becomes confused with syntactic patterning. Hence, one ordinarily looks for a direct object after the verb in an affirmative sentence; consequently, that which occurs before the verb has to be the subject (plus possible modification). The fallaciousness of this kind of thinking is illustrated in the following sentence:

$$\underline{\text{The rest of my suggestions}}_{t_1} \quad \underline{\text{you}}_{t_2} \quad \underline{\text{have heard}}_{3^R} \quad \underline{\text{in class}}_{t_3}. \qquad (2.55)$$

The above sentence is one which the writer recently wrote on a Freshman Composition student's theme, when thoughts of the present work were the farthest things from the writer's mind. In traditional definitional terms, surely t_1 is the object and t_2 is the subject, and both occur before the verb. Yet, due to the left-to-right thinking imposed by subject-predicate analysis, many would conclude that t_1 is the subject. From the standpoint of psychological focus, perhaps it is, since it stands first in the sentence and could be construed as the major topic, but definitionally it is not. Furthermore, t_2 is not logically the subject! For this is a kind of "passive" in that the object you occurs first in the second half of the sentence, and the covert subject (from me) would occur last in the sentence if it were present. (Grammatically speaking, of course, have heard is in the present perfect tense.) These facts can be proven by recourse to the (transformed) active voice form: I have told the rest of these suggestions to you in class. Thus, t_1 is the direct object and t_2 is the indirect object. Just as in the case of the "understood" you in imperative sentences, the subject here is clearly inferred from the context. Strangely enough, the traditional grammarian recognizes the fact that in passive sentences with direct and indirect objects, if a suitable context exists, either the indirect object or the subject may be deleted without altering the definition of the same pattern--e.g., The books were given to Jane (by Tom) and The books were given by Tom (to Jane). Yet, the traditionalist will not accept the idea that a "passive" in form (here a present perfect tense, the confusion with which will be dealt with later) may take have, not be.

Reciprocation and Reflexivization

Another example of the confusion in grammatical theory, not necessarily confined to the traditional school, concerns the analysis of reciprocal sentences. True predicate nominative sentences (equality relation) such as Twain was Clemens (cited earlier) are traditionally called subjective complement forms because the noun in the predicate completes the subject and is not acted upon by the verb. That is, the subject and the predicate nouns have the same semantic referent. Therefore, according to this definition, the sentence, He hit himself, would also be a predicate nominative, but, as everyone knows, grammarians classify the noun in the predicate in such a sentence as an object because of its case form, and because the object is acted upon by the subject-- which in this case are identical. However, logically speaking, Clemens can no more be said to "complete" the subject than himself does in their respective sentences. The analyses of the two sentences are repeated here for convenience:

$$\text{Twain was Clemens.} \qquad (2.56)$$
$$t_1 \quad = \quad t_1$$

$$\text{He hit himself.} \qquad (2.57)$$
$$t_1 \quad _2R \quad t_1$$

These two formulations seem to express, basically, the traditional ideas without encountering the definitional dilemmas of "completer of the subject" and "object of the verb, but still co-referential with the subject." The problem one incurs when talking about subjects and objects can be brought into sharp relief by simply pluralizing the term variables in the second sentence above:

$$\text{They hit themselves.} \qquad (2.58)$$

The above sentence is ambiguous, for it may mean that each member of the group hit himself, in which case it would be symbolized as:

$$\underline{\text{They}} \quad \underline{\text{hit}} \quad \underline{\text{themselves}}. \qquad (2.59)$$
$$t_1 \qquad 2^R \qquad t_1$$

In (2.59), the subjects _are_ the objects in traditional theory! On the other hand, the sentence might mean that the members of the group(s) hit each other. In this case, the symbolism would be different, as indicated below:

$$\underline{\text{They}} \quad \underline{\text{hit}} \quad \underline{\text{themselves}}. \qquad (2.60)$$
$$t_1 \qquad 2^R \qquad t_2$$

In (2.60), the subjects are at one time true subjects for they are hitting, and at another time true objects for they are being hit. The symbolism is, therefore, still not wholly adequate, but this will be remedied soon, after other important considerations are disposed of.

Problems With Prepositions

For some grammarians, the problem would be compounded if prepositions were introduced. For example, the sentence, _They fought themselves_, is of the same logical form as _They hit themselves_. If the former is altered to read

$$\underline{\text{They}} \quad \underline{\text{fought with}} \quad \underline{\text{each other}}, \qquad (2.61)$$
$$t_1 \qquad 2^R \qquad t_2$$

some grammarians would accept the analysis offered here, but others would insist that _with_ belongs with _each other_. This latter analysis

is <u>not</u> accepted here for the author agrees in this instance with traditional theory. Yet, if the fighting had been done with, say, knives, the above sentence might be considered to be equivalent to <u>They stabbed each other</u>. The point being made here is that there is no necessarily compelling reason why so-called prepositions could not be postpositions (with the verb) in some instances; and which option to take in particular instances is not a straightforward procedure; it depends on meaning, which is often quite slippery. It is interesting to note that traditional terminology, which speaks of "objects of prepositions," is quite suggestive sometimes on this point, but for some strange reason many traditionalists are loath to carry through the idea of "objectivalhood" in all its ramifications to a logical conclusion. For instance, they would classify a simple S-V-O sentence pattern such as

$$\underline{Mother}\ \underline{is\ fond\ of}\ \underline{flowers} \qquad\qquad (2.62)$$
$$\quad t_1 \qquad\quad 2^R \qquad\qquad t_2$$

as

$$\underline{Mother}\ \ \underline{is}\ \ \ \underline{fond}\ \ \underline{of\ \ \ flowers}. \qquad\qquad (2.63)$$
$$\text{subject cop.}\ \ \ \text{adj.}\ \ \text{prep. phrase}$$

The phrase <u>is fond of</u> is equivalent to <u>likes</u> or a similar verb. Moreover, to classify <u>of</u> with <u>flowers</u> as a prepositional phrase and say no more about it is to say almost nothing of importance about its syntactic role in the sentence.

This classification of "prepositions" with the nouns that follow them in sentences causes many problems unnecessarily when reciprocal sentences are being considered. The following sentences illustrate this fact:

I am acquainted with Mary / I know Mary, (2.64)

I ran into Jane / I met Jane, (2.65)

I am interested in linguistics / Linguistics interest me. (2.66)

The last pair, (2.66), is interesting because it is susceptible to two

varying traditional interpretations: (1) interested is a past parti-

ciple functioning as a predicate adjective followed by a prepositional

phrase, and (2) am interested is a passive form of the verb. The latter

analysis is suggested by the existence of the second example of the

pair, which is a straightforward statement, but note that it fails to

take into consideration that the passive transformation has not pro-

duced the characteristic by in the prepositional phrase. The former

analysis is suggested because by does not occur, and, apparently, the

feeling is that I is the subject, not linguistics. If one just con-

siders this as a two-place relation, however, the analysis is quite

simple:

$$\underline{\text{Linguistics}} \quad \underline{\text{interests}} \quad \underline{\text{me}}. \qquad (2.67)$$
$$t_1 \qquad 2^R \qquad t_2$$

If one chooses to use the more complicated form of the sentence, it

merely indicates the rhetorical stress that is desired—i.e., I, and

not someone else, am interested in linguistics; the simpler form

stresses that linguistics, and not something else, interest me; and

it can be seen that the problem of "voice" disappears; the logical

structure remains essentially the same in both active and passive

voices. Lastly, it is difficult on logical grounds to see how

interests (semantically) could take an object in such a sentence.

One could better see interest acting on an object in a sentence such

as He interested me in (the field of) linguistics, but this is a case

of embedding one sentence in another, for the meaning clearly is: <u>He</u>
<u>caused me to become interested in linguistics</u>.

The following sentence, which embodies nearly every problem
encountered so far in this section, was presented by the writer to
several of his teaching colleagues. All agreed beforehand that it was
a proper English sentence. These colleagues, all college teachers of
English of a traditional persuasion, were then asked to analyze it.
All except one came up with different analyses; the one exception said
that she could not analyze it with any degree of confidence that her
analysis would be the correct one. The writer feels that the last
answer is the most honest one, for it is contended here that this
sentence is an excellent example of one which crosses over sentence
patterns--to the point that one wonders if talk of "patterns" is not
idle except in the most simple of cases. The sentence is:

> The ministers were agreed on a price of fifteen million   (2.68)
> dollars for the Louisiana Purchase.

The intended basic meaning is in the context of the post-American
Revolutionary period: American ministers agreed to pay France the
money. Omitting the last two prepositional phrases for reasons of
simplification, the following paraphrases may serve to exhibit the
possibilities suggested by the writer's colleagues:

> The ministers agreed on a price.   (2.69)
> The ministers were agreed on a price.   (2.70)
> The ministers agreed to a price.   (2.71)
> A price was agreed to by the ministers.   (2.72)
> The ministers were in agreement on a price.   (2.73)
> A price was agreed (up)on by the ministers.   (2.74)

To solve this dilemma, the following considerations were suggested:

(2.70) is not a passive sentence because <u>by</u> (<u>the ministers</u>), does not

occur. (2.69) and (2.71) are simple statements in which a variety of

prepositions--<u>on</u>, <u>upon</u>, <u>to</u>, <u>with</u>--function as verb particles; further-

more, they are reciprocal, for the meaning is clearly <u>The ministers</u>

<u>agreed with each other on a price</u>. (2.72) is a passive sentence.

(2.74) is also a passive sentence with substitution of different verb

particles. (2.73) is "a kind of predicate adjective sentence" where

the prepositional phrase <u>in agreement</u> is the adjectival. One possi-

bility missed by all the analysts was the paraphrase

$$\underline{\text{The ministers}}\ \underset{t_1}{\underline{\text{agreed}}}\ \underset{\substack{2\\2^R}}{\underline{\text{to pay}}}\ \underset{t_2}{\underline{\text{a price}}} \ . \ . \ . \ . \qquad (2.75)$$

In (2.75), the infinitive complement (<u>to pay</u>), as it is called in

traditional grammar, is indeed a completer of the verb, but it is first

of all a part of the embedded sentence, <u>The ministers pay</u>, with identical

noun phrase (subject) deletion being performed transformationally later.

What is left is a compound verb. Such a structure <u>can</u> be viewed as a

verb with (literally) adverbial modification in the larger sentence,

as is sometimes done in traditional analyses, but, as will be seen

later, this kind of analysis is faulty because true adverbials (of

manner) raise a verb to a "higher power," while infinitive complements

merely add to the verbal (hence, the superscripted numeral on the <u>left</u>

of the relation). (The same thing is true of compound nouns. In the

phrase <u>grammatical book</u>, for instance, the adjective modifies the

noun; but in the phrase <u>grammar book</u> a certain class of book is being

designated.) This compound verb solution seems to be a simple way of

handling these matters, but a more precise interpretation is possible.

A still simpler analysis of this sentence is possible, if one ignores the existence of embedding:

$$\underset{\underset{1}{t}}{\underline{\text{The ministers}}} \quad \underset{4^R}{\underline{\text{agreed}}} \quad \underset{\underset{2}{t}}{\underline{\text{to pay}}} \quad \underset{\underset{3}{t}}{\underline{\text{a price}}} \quad \underset{\underset{4}{t}}{\underline{\text{of 15 million dollars}}}. \qquad (2.76)$$

Here, the infinitive complement is functioning as a noun (cf. the gerund on paying). This is a tetradic relation where the symbols are interpreted as: t_1 = the agreers, 4^R = agreed, t_2 = the act of agreement, and t_4 = the object involved in the act. If for the Louisiana Purchase had been added to complete the sentence, that phrase would be a fifth term in a five-place relation, for it is not a modifier; it is a kind of object (i.e., a kind of objective complement, in traditional terms). The above analysis (2.76), was suggested by an example in Hemphill's work:[16]

$$\underset{\underset{1}{t}}{\underline{\text{The serpent}}} \quad \underset{4^R}{\underline{\text{tempted}}} \quad \underset{\underset{2}{t}}{\underline{\text{Eve}}} \quad \underset{\underset{3}{t}}{\underline{\text{to eat}}} \quad \underset{\underset{4}{t}}{\underline{\text{the apple}}}, \qquad (2.77)$$

where the symbols, respectively, represent tempter, tempted, the act, and the object of the act.

Perhaps the best analysis is one suggested by transformational theory:

$$\text{The ministers agreed that they pay a price.} \ldots \qquad (2.78)$$

That is, the sentence is treated as a peculiar sort of compound embedding. Analyses of this sort will be fully treated in Chapter III.

Disguised Reciprocation

Some verbs are not usually recognized as reciprocal. They include such verbs as dance, argue, marry, etc. In He danced delightfully,

there is no reciprocation, for the sentence refers to a one-person dance, but in <u>They danced (= together)</u> or <u>They danced (= with each other)</u>, there is. In <u>He argued (= presented) his point well</u>, the implication is of someone addressing others, not an interchange of discussion, necessarily, between them, but in <u>Helen and Jane argued (= with each other)</u>, there is interchange. In <u>He married off his daughter</u>, again, there is no reciprocation, but in <u>Bob married Grace</u>, it is obvious that <u>Grace married Bob</u> also. Syntactically, the reciprocal forms may be represented in the following manner:

$$\underline{\underset{t_1}{They} \; \underset{2^R}{danced \; with} \; \underset{t_2}{each \; other}} \qquad\qquad (2.79)$$

$$\underline{\underset{t_1}{Helen \; and \; Jane} \; \underset{2^R}{argued \; with} \; \underset{t_2}{each \; other}}. \qquad\qquad (2.80)$$

$$\underline{\underset{t_1}{Bob \; and \; Grace} \; \underset{2^R}{married}} \; (= got \; married \; \underline{to \; \underset{t_2}{each \; other}}). \qquad (2.81)$$

These, then, are analyzed in the same way as <u>They hit themselves</u> was earlier, where it was noted that the "subjects" and the "objects" acted on each other, if considered in traditional terms.

If one wants to indicate the reversibility ordering that is possible with the terms, one can affix an exclamation mark to the terms involved:

$$\underline{\underset{! \; t_1}{Allen} \; \underset{2^R}{danced \; with} \; \underset{! \; t_2}{Jean}}. \qquad\qquad (2.82)$$

This form can also be used to emphasize the existence of double subjects and double objects. That is, (2.82) is equal to the conjunctive form:

$$\underline{\underset{(t_1}{Allen} \; \underset{2^R}{danced \; with} \; \underset{t_2)}{Jean}}, \; \underset{\&}{and} \; \underline{\underset{(t_2}{Jean} \; \underset{2^R}{danced \; with} \; \underset{t_1}{Allen}}, \qquad (2.83)$$

where the word _simultaneously_ is understood from the context. The

preposition _with_ is here considered to be a verb particle because the

idea of dancing in junction seems intuitively to imply _with_ in the

relation. Armed with these thoughts, one can now see a possibly dif-

ferent analysis for an example cited earlier, namely, _I am acquainted_ with

Mary (= _I know Mary_). The speaker chooses to use the former because

it stresses reciprocation, whereas the latter does not. In the latter

case, I may know (of) Mary, but she may not know of me. But in the

former case the implication clearly means that they know each other,

which fact is expressed by using _with_. Thus, this sentence could,

and perhaps should, be analyzed in the same way that _Allen danced with_

Jean was. Another thing the conjunctive analysis shows when applied to

all the examples immediately above is that the $! \, t_1 \, _2R \, ! \, t_2$ forms

are actually reduced forms of the $[(t_1 \, _2R \, t_2) \, \& \, (t_2 \, _2R \, t_1)]$ form,

brought on by various obvious transformations. This is also true of

the earlier, similar example, _They hit themselves_, for what it means

is _They hit each other_. Other peculiarities of conjunctive forms will

be dealt with later.

Such reciprocals also resemble sentence pattern one, for they can

be further reduced through the application of elimination transforma-

tions to simply _They danced_, _They argued_, and _They married_; in each

case, _together_ or _with each other_ is merely assumed.

The resemblance of the so-called direct object pattern in

reciprocal sentences to the predicate nominative pattern can also be

established. In _He made captain_, _captain_ cannot be a direct object,

for it is in co-reference with _He_; the meaning is clearly _He became_

captain. However, this sentence does not express an equality relation,

as is usually thought; it is a case of a person becoming a member

through promotion to the rank (class) of captain, and so it is a class

membership sentence.

Distinguishing Subjects and Objects

The idea of subject and object is further complicated when one

considers the following pair:[17]

$$\underset{t_1 \qquad {}_2R \qquad t_2}{\underline{\text{The waitress}} \ \underline{\text{covered}} \ \underline{\text{the table}}.} \qquad (2.84)$$

A cloth covered the table. (2.85)

(2.84) is a pattern four (direct object) type, but is (2.85) also?

(2.85), apparently, means A cloth was on the table, where the copula is

logically meaningless (unless was = existed); this sentence is a loca-

tive type of sentence yet to be discussed, but it may be noted that

covered need not be in the sentence, for one can say It is nice to see a

cloth on the table, where no verb at all occurs with, or acts on,

the table. Thus, (2.85) could be interpreted as simply an aF form,

where covered merely indicates tense.

Identifying Mandatory Locatives

It has been demonstrated that the analysis of reflexive and

reciprocal sentences must be somewhat different than the analysis of

typical direct object types. A characteristic of sentence pattern

four (in its simplest formulation) is that it is amenable to the pas-

sive transformation. The obvious reason why reflexives and reciprocals

must be analyzed differently is that they contain co-references between

their subject and object terms. (The only exception is a sentence

such as <u>He was injured by himself</u>, where the prepositional phrase

carries the added meaning of <u>only</u>.) Also sometimes included in this

group are verbs of "having," "containing," and "suiting."[18] The passive

transformation cannot be applied to these verbs either, though the

active voice form of this seeming direct object pattern is symbolized

in the same manner as regular S-V-O forms:

$$\underset{t_1 \quad {_2}^R \quad t_2}{\underline{\text{The hat}} \ \underline{\text{suits}} \ \underline{\text{you}}.} \qquad (2.86)$$

$$\underset{t_1 \quad {_2}^R \quad t_2}{\underline{\text{We}} \ \underline{\text{have}} \ \underline{\text{a pet}}.} \qquad (2.87)$$

$$\underset{t_1 \quad {_2}^R \quad t_2}{\underline{\text{That dress}} \ \underline{\text{fits}} \ \underline{\text{you}}.} \qquad (2.88)$$

$$\underset{t_1 \quad {_2}^R \quad t_2}{\underline{\text{The room}} \ \underline{\text{can seat}} \ \underline{\text{fifty}} \ \text{(people)}.} \qquad (2.89)$$

Perhaps the reason that (2.86) cannot be passivized is due to faulty

reasoning. The hat is not suiting; what is meant is something like

<u>The hat looks good on you (to me)</u>--i.e., <u>I think the hat looks good

on you</u>. It might be objected that in (2.89) a passive transformation

is possible: <u>Fifty (people) can be seated in the room.</u> However, the

characteristic <u>by</u> is missing, and this fact is significant, for if it

had occurred it would have been in a sentence of the form <u>Fifty (people)

can be seated in the room by the teacher</u>; thus, the active form is

<u>The teacher can seat fifty (people) in the room.</u> <u>The room</u> is, there-

fore, not a subject at all in the above symbolized sentence. Once

again it has been demonstrated that talk of subjects and objects is

pointless. What exists in all these cases (as well as in those where

subjects and objects seem intuitively valid) is a two-place relation

which predicates some property of the flanking terms.

Sometimes a sentence of the pattern four type requires an "adverbial" expression (usually a locative) to make it comprehensible.[19] Nevertheless, this demonstrates once more the overlapping nature of the sentence patterns. Some examples are:

$$\text{John put his toys away.} \qquad (2.90)$$

$$\text{I placed my hand on his shoulder.} \qquad (2.91)$$

$$\text{We saw the stranger home.} \qquad (2.92)$$

Home causes some analytical problems in (2.92) from the traditional point of view. Is home a locative adverb or a noun? In terms of morphological form, home is certainly a noun, but distributionally and perhaps semantically it may be a locative expression. The situation may be illustrated better by the following pair:

$$\underline{\text{The plane}}_{t_1} \; \underline{\text{went around}}_{2^R} \; \underline{\text{Chicago.}}_{t_2 \; ?} \qquad (2.93)$$

$$\underline{\text{The plane}}_{t_1} \; \underline{\text{went}}_{2^R} \; \underline{\text{around Chicago.}}_{t_2} \qquad (2.94)$$

If in (2.93) Chicago means the city of that name, then this is simply a two-place relation of "aroundness" that could be paraphrased as The plane circled Chicago (= The plane circled it); hence, Chicago is a direct object. This is the interpretation that the present writer prefers. If, on the other hand, Chicago means there, then this is a sentence pattern that still remains to be discussed. The facts illustrate, in any event, a possible overlapping of sentence patterns. In (2.94), around Chicago is traditionally simply analyzed as a prepositional phrase performing the locative adverbial function. The

problem in this analysis is that it separates part of the property

from the relation went and places it elsewhere. Logically, this is

possible, but grammarians find this untidy. It seems clear that

what is being predicated of the plane is that it rounded the city

of Chicago:

$$\underline{\text{The plane}}\ \underline{\text{rounded}}\ \underline{\text{Chicago}}. \qquad (2.95)$$
$$t_1 \qquad\quad 2^R \qquad\ t_2$$

Chicago is thus interpreted as the direct object (and not an adverb)

because the paraphrase

$$\text{*The plane rounded there} \qquad (2.96)$$

is not grammatical, but the sentence

$$\text{The plane rounded it} \qquad (2.97)$$

is grammatical. Thus, went around equals circled, and this is a

typical sentence pattern four type (S-V-O).

Objects Versus Verbs

Similar to the last few examples in some respects are certain

"transitive" sentences containing such verbs as take, give, do, pay,

have, etc. Zandvoort, in a very good modern, traditional, scholarly

grammar cites the following examples:[20] to take a walk, to have

breakfast, to give a jump, to give orders, to do good, to do harm,

to do credit, to take place, to take part, to take care, to pay

attention, to pay a visit, to have a shave, to have a smoke, etc.

He notes that in such cases "the object is more important than the

verb. . . ."[21] For example, in Alex gave orders to them, the indirect

object pattern is actually a transformation of:

$$\underline{\text{Alex}} \;\; \underline{\text{ordered}} \;\; \underline{\text{them}} \qquad\qquad (2.98)$$
$$t_1 \qquad\; {_2}R \qquad t_2$$

Here, gave has little or no semantic content; it is a kind of quasi-
auxiliary. Of course, in a real conversational context, this simple
direct object pattern would be expanded (at least by implication) to
a more complicated pattern such as <u>Alex gave orders that they evacuate</u>
<u>the area at once.</u> Anyway, the close relationship of pattern four
types (direct object) to pattern five types (indirect object) has
already been established. The fact that it only works with certain
verbs indicates the essential need of a logical, propositional analysis
rather than one based mainly on form and distribution.

Sometimes the verb and direct object are more or less equivalent,
thus equating pattern one type (S-V) with pattern four (S-V-O). Such
cases are:[22]

$$\text{I dreamed a dream.} \qquad\qquad (2.99)$$

$$\text{He lived a life of sin.} \qquad\qquad (2.100)$$

Such examples also seem to indicate, perhaps, that in universal
grammar noun and verb categories are primary, not derived categories.
On the other hand, it may be that nouns and verbs are just two aspects
of the same thing, as is suggested by the following pair:

$$\text{He took a walk.} \quad (= \text{He walked.}) \qquad\qquad (2.101)$$

$$\text{She had breakfast.} \quad (= \text{She breakfasted.}) \qquad\qquad (2.102)$$

Sometimes these kinds of sentences raise the issue of grammaticality.
For example, the writer recently heard a British television

documentary narrator utter the following imperative sentence on an

Oklahoma City television station:

$$?*(\text{You can}) \text{ have a read at the newspaper.} \qquad (2.103)$$
$$\text{--}\underline{\text{Nova}}, \text{ KETA-TV, Jan. 12, 1975.}$$

Whether the reader decides the above sentence is grammatical or not,

this sentence and countless others like it illustrate the strong

tendency to convert any sentence pattern to a pattern four type, if it

is possible. Here, the change is from pattern two (S-V) to a pseudo-

pattern four (S-V-O?). That is, the meaning is <u>You can read a newspaper</u>,

where no locative expression occurs. But in the narrator's sentence

<u>a read</u> is the direct object (verb to noun metamorphosis without semantic

change). In such a sentence it seems logically ridiculous to analyze

<u>at the newspaper</u> as a locative expression or anything else (such as a

complement). Grammatically speaking, the only proper analysis one can

apply, if one allows one's judgment to be influenced by logical con-

siderations, is to interpret the verbal as a complex entity which is

in relation to two variables:

$$\underline{\text{(You)}} \ \underline{\text{(can)} \ \text{have a read at}} \ \underline{\text{the newspaper.}} \qquad (2.104)$$
$$\hat{t}_1 \qquad \qquad 2^R \qquad \qquad t_2$$

(The circumflex accent mark is used to indicate an assumed term).

Pattern Five--Indirect Object Sentences

Identifying Indirect Objects

This type of sentence is traditionally called an indirect object

form of sentence. Logically, such sentences are labeled as triadic

because they display three-place predicate relations. A simple case
is

$$\underline{\text{The bank}} \; \underline{\text{sent}} \; \underline{\text{a check}} \; \underline{\text{to me}}. \qquad (2.105)$$
$$t_1 \qquad 3^R \qquad t_2 \qquad t_3$$

By movement and deletion transformations, this may be converted to

$$\underline{\text{The bank}} \; \underline{\text{sent}} \; \underline{\text{me}} \; \underline{\text{a check}}. \qquad (2.106)$$
$$t_1 \qquad 3^R \quad t_3 \qquad t_2$$

Sentence (2.105) is considered primary, ordinarily, because it is
actually a pattern four type with something else just added on to make
the communication more complete; this point of view accords with the
simplicity criterion of scientific thinking, for it suggests that
complicated patterns derive from simple patterns through a set of
(hopefully) well-defined operations. In (2.106), the bank did not
send me; it sent a check. Consequently, since to me is merely added-on
information, the indirect object form of sentence is an extension
of the direct object pattern. (However, the two patterns may appear
identical in form when either one of the objects is deleted, of which
more will be said later.) At most, the only difference between the
two sentences is one of emphasis. If word order only is considered,
and stress, pitch, and intonation contour are ignored, the emphasized
entity is the first entity.

A peculiarity of this sentence pattern is exhibited in the
following synonymous pair:

$$\underline{\text{Waiting}} \; \underline{\text{will do}} \; \underline{\text{him}} \; \underline{\text{good}}. \qquad (2.107)$$
$$t_1 \qquad 3^R \qquad t_3 \quad t_2$$

$$\underline{\text{Waiting}} \; \underline{\text{will be good for}} \; \underline{\text{him}}. \qquad (2.108)$$
$$t_1 \qquad 2^R \qquad t_2$$

(For is included in the complex verb on the basis of cases such as
What's it good for?) Traditionally speaking, the latter case resembles
a direct object sentence in form, for by paraphrasing it is basically
equal to Waiting will benefit him; but benefitting, semantically,
does not seem to "act on" the object him, as verbs are supposed to do
to objects according to the definition. As in the sentence I hear him,
it is probably preferable just to speak of a two-place relation. The
former case, Waiting will do him good, in form, seems to be an indirect
object pattern, but the direct object is not a nominal. Calling the
adjective good a direct object in function goes against the traditional
definition of what constitutes a direct object. The structuralist
idea of "functional shift" does not seem to be a good analysis either,
for then something like good person is implied. That is, it is not a
case of an adjective substituting for a noun as in The rich get richer,
and the poor get poorer, where people is implied as the modified element
of rich and poor. Nor does it seem reasonable to analyze good as an
adjectival complement of him, for the meaning is clearly verblike in
nature; it seems to imply (roughly) that waiting will better him (make
him better). More absurd would it be to analyze Waiting will be good
for him, as some traditionalists would, as subject + copula + predicate
adjective + prepositional phrase. Here, good is considered to modify
waiting, and the idea that he will benefit is lost entirely. Moreover,
no functional analysis is assigned to the prepositional phrase; it is
merely classified as a prepositional phrase, as if by so doing some-
thing of importance has been said, when in reality nothing has been
said. To call for him a kind of adverbial, as some might, is equally
absurd. For these reasons, it seems inadvisable to accept the

traditional view that <u>good</u> is a direct object or any kind of complement

in <u>Waiting will do him good</u>.[24] Logically, the proper analysis is to

assume the form <u>Waiting will be good for him</u> (or, <u>Waiting will benefit</u>

<u>him</u>), a S-V-O form. Hence, in (2.107), <u>will do good</u> is the complex

verb and <u>him</u> is the direct object:

$$\underline{\text{Waiting}}_{t_1} \; \underline{\text{will do}}_{2^R} \ldots \; \underline{\text{him}}_{t_2} \ldots \text{good},$$ (2.109)

or

$$\underline{\text{Waiting}}_{t_1} \; \underline{\text{will do good for}}_{2^R} \; \underline{\text{him}}_{t_2}.$$ (2.110)

(The elipses in the first example above indicate not omission, but

the places where the verb phrase leaves off and takes up again. It

should also be noted at this point that the analysis of the gerund

in such a sentence will receive a more sophisticated scrutiny in

Chapter III.)

Confusion of sentence pattern types is also possible in other

cases involving the indirect object. The indirect object usually

occurs in sentences where direct objects also occur (and this is what

will be meant when the term "indirect object sentence" is used

hereafter), but it may occur as the only <u>overt</u> object in the sentence:

$$\underline{\text{He}}_{t_1} \; \underline{\text{told}}_{2^R} \; \underline{\text{me}}_{t_2}.$$ (2.111)

In such a sentence, it is the verb that furnishes the clue for analysis.

A verb such as <u>told</u> implies both something to be told and someone to

tell it to. A verb such as <u>took</u>, however, only implies a direct object,

as for example, in <u>He took her to the concert</u>. Therefore, the analyzed

sentence above is merely a reduced form of <u>He told me something</u>, which is itself a transformation of <u>He told something to me</u>. That is, each sentence below implies the other:

$$\underset{t_1}{\underline{\text{He}}} \quad \underset{2^R}{\underline{\text{told}}} \quad \underset{t_2}{\underline{\text{something}}} \qquad\qquad (2.112)$$

and

$$\underset{t_1}{\underline{\text{He}}} \; \underset{2^R}{\underline{\text{told}}} \; \underset{t_2}{\underline{\text{me}}}. \qquad\qquad (2.113)$$

Since the same logical form applies to both cases, how is one to distinguish them? Obviously, the only way to do this is to insert the "understood" elements so that a three-place relation results. Logically, however, the question is a sterile one, for the shorter forms indicate all that the speaker feels is necessary—i.e., a two-place relationship. If someone is only interested in <u>who</u> and somebody else is only interested in <u>what</u>, then as far as they are concerned <u>He told me</u> and <u>He told something</u> are both complete sentences of the S-V-O type; talk of "direct" and "indirect" is meaningless. This is still another example that teaches one how the extralinguistic situation must be considered. What has or has not been retained is often inconsequential. It is only when knowledge of both <u>who</u> and <u>what</u> is required that one needs to show the expansion of pattern four to pattern five:

$$\underset{t_1}{\underline{\text{He}}} \; \underset{3^R}{\underline{\text{told}}} \; \underset{t_2}{\underline{\text{something}}} \; \underset{t_3}{\underline{\text{to me}}}. \qquad\qquad (2.114)$$

Occasionally, one incorrectly analyzes indirect object sentences because the characteristic <u>to</u> is replaced by a different preposition,

usually _for_, but others are possible too. Stageberg offers the
following examples:[25]

He built _her_ a playpen.	He built a playpen _for_ _her_.	(2.115)
He played _me_ a game of chess.	He played a game of chess _with me_.	(2.116)
He asked _her_ a question.	He asked a question _of her_.	(2.117)

All of the above sentences are analyzed as three-place relations, just
as in the more normal form containing _to_.

The Transitoriness of Patterns

Early on in this manuscript it was maintained that there really
is no such thing as a sentence pattern, at least in any absolute
sense. "Patterns" are temporary things in a changing situation. Just
as in man's external environment there is no constant except change
(to speak paradoxically), so there is continuous change in the so-called
forms of speech which man uses. _The_ major discovery of the twentieth
century is that made by Albert Einstein--that we live in a relative,
constantly changing universe, where, for example, time and space are
related as a continuum; and matter and anti-matter also co-exist in
a continuum function. The situation is similar in grammar. It has
been repeatedly shown that the patterns usually identified as such by
grammarians actually overlap in a bewildering number of ways, often in
a non-linear way, to such an extent that to speak dogmatically of
patterns in an absolute sense is meaningless. What saves such an
approach from being entirely meaningless is the fact that the sentence
patterns are the forms which one _seems_ to find in speech and writing;
counterexamples, however, are easy to find if one does not close one's

eyes to the facts. The great Einsteinian lesson is that we live in a world that <u>seems</u>, and it is only by trying to establish <u>relationships</u> that any stability, however illusory, can be attained in any subject; the absolute universe of Isaac Newton exists no more. One reason that the sentence pattern approach is somewhat effective is that the grammars of all the various linguistic schools contain mostly "made-to-order" sentences—i.e., those which occur in patterns reasonably frequently. Most of the sentences adduced so far in this work, too, have been easily recognizable in the interest of pedagogical rapport. The fact is that, aside from merely listing such counterexamples and trying to expand the list of grammatical transformations to account for their interrelationships, they are often of scant logical significance. More common patterns supply enough data to recognize the most important and interesting problems. However, there will be some very unusual sentences introduced from time to time, not only to support inferences made above, but also because their analyses involve some important logical and syntactical concepts.

Distinguishing Grammatical Function and Distribution

The examples given thus far in this and the preceding sections prove that grammatical analyses based only on such formal criteria as form, function, and distribution are fraught with errors and misconceptions. Meaning is also a slippery criterion, as will be shown presently. All of these approaches come into play in the indirect object type of sentence. That is the reason for this, perhaps, too long digression. A good example is the front page headline (pseudosentence) which recently appeared concerning President Ford:

Nuclear plants pushed by Ford. (2.118)
--Oklahoma Journal, Jan. 16, 1975.

This seems to be an obvious passive voice form of statement of the

direct object sentence pattern type with auxiliary deletion:

$$\underline{\text{Ford}} \underline{\text{pushes}} \underline{\text{nuclear plants}}. \qquad (2.119)$$
$$t_1 \quad 2^R \qquad t_2$$

Semantically, pushes here does not represent an action which can be

said to "act on" something which "receives its action" in some sense;

hence, how can nuclear plants be a direct object function in the tra-

ditional sense? Paraphrased (roughly), the meaning seems to be Ford

urges (others) to accept nuclear plants; thus, others is the direct

object, which is only implied. Ford is certainly not the "psychological

subject," which is the criterion by which traditionalists, structural-

ists, and transformationalists relate the essential "identity" existing

between the so-called active and passive forms of such a sentence; the

main topic, if there is one, seems to be nuclear plants. One can

alter the paraphrase a bit (ignoring the internal structure of the

infinitive phrase):

$$\underline{\text{Ford}} \underline{\text{wants}} \underline{\text{(for) others to accept nuclear plants}}. \qquad (2.120)$$
$$t_1 \quad 2^R \qquad t_2 \ (=\text{"it"})$$

The result is, ironically, one which would accord with views of most

schools of grammar: i.e., it is a direct object type of sentence with

the embedded for-clause functioning as the direct object of the whole

sentence; but now others is the subject of the dependent clause (not

the whole sentence) and the true subject, nuclear plants, is the direct

object of the dependent clause (not the whole sentence). This analysis

is supported by the following <u>passive</u> (*R) paraphrase which occurs in

the complex object of the total <u>active</u> sentence:

<u>Ford</u> <u>wants</u> <u>nuclear plants</u> (to be) <u>accepted</u> by others. (2.121)
t_1 2^R u_2 $*S \atop 2$ u_1
        (= object)   (= subject)
                          t_2 (= "it")

With nominalization of the dependent clause, this becomes the indirect

object form, and the whole sentence reverts to the active voice:

<u>Ford</u> <u>wants</u> <u>acceptance of nuclear plants</u> <u>by others</u>. (2.122)
t_1 3^R t_2 t_3

Converting this to a sentence where the true subject is located in its

usual first-place position, the result is a passive indirect object

type of sentence:

<u>Acceptance of nuclear plants</u> <u>for others</u> <u>is pushed</u> <u>by Ford</u>, (2.123)
      t_1 t_2 $*R \atop 3$ t_3

where <u>pushed</u> is re-inserted because it sounds normal in this locution.

(An intermediate transformation has moved the <u>others</u>-phrase from the

end of the sentence.) This analysis is based on the idea that the

first term means Nuclear plants' acceptance (i.e., a possessive).

Thus, this three-term analysis suggests that <u>Nuclear Plants pushed by</u>

<u>Ford</u> (the headline) is actually an indirect object type of sentence,

as indicated in the last two formulas.

The headline writers, knowing that a pronoun such as <u>others</u> was

obviously implied, reduced the last formula to the direct object form

in the passive voice:

Acceptance of nuclear plants (for others) is pushed by Ford.(2.124)
$$t_1 \qquad\qquad \overset{*R}{_2} \qquad t_2$$

Thus, this form was further reduced to

Acceptance of nuclear plants is pushed by Ford. (2.125)
$$t_1 \qquad\qquad \overset{*R}{_2} \qquad t_2$$

This formulation reveals that, contrary to what was said earlier about nuclear plants being the true subject, the real subject semantically is acceptance, but it would be incomplete without its modification, of nuclear plants--for it is the acceptance of nuclear plants in its entirety which forms the true subject of the sentence; nothing less will do. Headline writers must conserve space, ink, etc. Fortunately, in this case, it is possbile to retain the ideas contained in accep- tance and nuclear plants, along with the rest of the sentence meaning, and still reduce the size of the sentence. This can be done because the meaning contained in acceptance and pushes is similar, for the reduction of the last formula, by subject headword deletion, becomes

*Nuclear plants is pushed by Ford; (2.126)
$$t_1 \qquad \overset{*R}{_2} \qquad t_2$$

and, as noted earlier, this sentence is more or less semantically equivalent to Ford urges acceptance of nuclear plants. Thus, the distinction between subject and verb is even in jeopardy! For the idea of acceptance contained in the subject acceptance of nuclear plants has been separated out of the whole subject and this part of the subject's meaning has been transferred to the verb unit, for which pushes is supplied. One could, alternatively, say that the complex predicate meaning is actually pushes acceptance, where pushes takes

over the semantic job of indicating the object, acceptance, as well as
the verb meaning in pushes (= urges). The final reduction to the
newspaper headline form, as pointed out earlier, is only a matter of
copula deletion of the above ungrammatical passive sentence:

$$\underline{\text{Nuclear plants}} \underset{t_1}{} \underline{\text{pushed}} \underset{\overset{*}{2}R}{} \underline{\text{by Ford}}. \underset{t_2}{} \qquad (2.127)$$

As stated above, the final formula is derived from an ungrammat-
ical passive, *Nuclear plants is pushed by Ford; the singular verb is
does not agree in number with its plural subject nuclear plants.
Therefore, the latter phrase cannot be the subject--i.e., the entire
subject. The singular headword acceptance (or some such synonym)
does agree in number with is. Consequently, the headline, Nuclear
plants pushed by Ford, must derive somewhat according to the steps that
have been outlined above. It could not have derived from the gram-
matically correct form, Nuclear plants are pushed by Ford because of
the semantic reasons already discussed.

This headline example has served to show, then, that there is no
absolute boundary separating syntax from semantics, active from
passive, direct object type of sentence from indirect type, and simple
sentence from a sentence embedded with clauses. The variety of
orderings combined with these factors all tend to confirm this writer's
view that categories of distribution, form, and function are extremely
tenuous things upon which to base a grammatical analysis, yet these
things are the primary instruments usually employed for the determi-
nation of sentence patterns. In fact, it would not be much amiss to
say that patterns are correlations of distribution, form and function.
Patterns, however, form only a beginning for a more penetrating,

logical analysis. There are many other peculiarities that have been ignored in the analysis of this headline sentence because they were thought to be of minor significance. One such is the behavior of the prepositions. The reader is left to puzzle over these.

Overlapping of functions and positions is what obscures truth in grammatical analysis quite often. Perhaps it would be better to say that linguists too often define one in terms of the other. This circular method produces few, if any, useful results, and it causes needless confusion. One common example of this is the practice of calling the first noun phrase in a passive voice sentence the subject. Since the subject is defined as that which performs the action of the verb, calling the ball in a sentence such as The ball was hit by John the subject causes the definition to fail. The psychological subject remains John regardless of noun phrase movement. Recognizing this, some (but not all) traditional grammarians have resorted to terms such as "psychological subject" (= actor, main topic) versus "grammatical subject" (= first topical noun phrase).

Another example of confusing distribution and function is the case of the indirect object. For instance, John Hughes, a structural linguist, defines the "dative case" (indirect object) "as structurally equivalent to an adverb or adverbial phrase."[26] In other words, indirect objects occur where adverbials may occur. As will be seen soon, this is only true of manner adverbials, but the important thing to note is that this statement already has destroyed any usefulness in the idea that certain functions occur in certain positions. Hence, the idea of sentence pattern is quite suspect. Hughes goes even further: "Insofar as a dative case exists in English, it is expressed

only by structure. . ." and "this is based on commutation" of forms

such as "I gave _him_ the book" and "I gave the book _to him_."[27] In the

present work, indirect objects are relational terms on a par with terms

representing subjects and direct objects; on a par in the sense that,

in the final analysis, subject, object and indirect object serve similar

functions and are therefore really indistinguishable as separate

functions. Part of the proof, in fact, lies in the fact that each may

occur in positions where the others may occur. (Only the verb usually

remains somewhat central distributionally, and it is significant that

the verb is the logical relation common to all the terms in a simple

sentence.) Thus, distribution explains little, if anything, about

functional categories in many instances, as a glance at the following

list of sentences shows:

Harold gave the book _to Elaine_.	(2.128)
The book was given by Harold _to Elaine_.	(2.129)
To Elaine Harold gave the book.	(2.130)
Elaine was given the book by Harold.	(2.131)
Harold gave _Elaine_ the book.	(2.132)
The book was given _to Elaine_ by Harold.	(2.133)

If these sentences express basically the same proposition, as is usually

accepted, then (aside from factors of stylistic emphasis and focus)

Elaine must be performing the same function, however that function may

be defined.

On the other hand, if focus or emphasis _is_ a fundamental factor

in determining the propositional content, then many of the above

sentences are different sentences because they are different propo-

sitions. An easy way to prove this is to take a modifying word, such

as the so-called adverb _only_, and move it about with the indirect

object to those positions that have already been identified:

Harold gave the book <u>to Elaine only</u>.	⎧equivalent⎫	(2.134)
Harold gave the book <u>only to Elaine</u>.	⎩ ⎭	(2.135)

Harold gave <u>only Elaine</u> the book.	⎧equivalent⎫	(2.136)
Harold gave <u>Elaine only</u> the book.	⎩ ⎭	(2.137)

<u>Only to Elaine</u> Harold gave the book.	⎧ ⎫	(2.138)
<u>To Elaine only</u> Harold gave the book.	⎨ equivalent ⎬	(2.139)
?*<u>To only Elaine</u> Harold gave the book.	⎩ ⎭	(2.140)

The book was given <u>to Elaine only</u> by Harold.	⎧ ⎫	(2.141)
The book was given <u>only to Elaine</u> by Harold.	⎨equivalent⎬	(2.142)
?*The book was given <u>to only Elaine</u> by Harold.	⎩ ⎭	(2.143)

<u>Only Elaine</u> was given the book by Harold.	⎧equivalent⎫	(2.144)
<u>Elaine only</u> was given the book by Harold.	⎩ ⎭	(2.145)

<u>Only to Elaine</u> was the book given by Harold.	⎧Note possible⎫	(2.146)
<u>To Elaine only</u> the book was given by Harold.	⎨additional ⎬ changes	(2.147)

The book was given by Harold <u>to Elaine only</u>.	⎧ ⎫	(2.148)
The book was given by Harold <u>only to Elaine</u>.	⎨equivalent ⎬	(2.149)
?*The book was given by Harold <u>to only Elaine</u>.	⎩ ⎭	(2.150)

By using the qualifying word <u>only</u> in each case, it seems evident that all these structures are propositionally equivalent; hence, the <u>Elaine</u>-phrase in each instance represents the same relational term which ought, therefore, to represent the same function, if there is any such thing. However, most grammarians would not concede this view. The burden of proof, nevertheless, would seem to be upon them. The emphasis indicated in <u>only</u> seems to signify that the main topic of discussion is (or could be) <u>Elaine</u>--i.e., <u>her</u> (and nobody else) receiving the book. Thus, in traditional terms, e.g., (<u>to</u>) <u>Elaine</u> is performing the subject function in <u>To Elaine Harold gave the book</u>; but if the same idea is implied in <u>Harold gave the book to Elaine</u> (where <u>to Elaine</u> would receive rising voice inflection), the subject is, nevertheless, said to be <u>Harold</u>. Surely, there is something wrong with a theory that makes such claims. In any event, the distinction between subject and object is certainly in a state of confusion.

Another reason for using this mode of exposition is that <u>only</u>

takes the place of voice intonation, pitch, and stress, and is thus

more perspicuous on paper. For example, one could indicate the so-

called traditional subject function by underlining:

<u>Harold</u> gave **the** book to Elaine.	(2.151)
Harold gave the book <u>to Elaine</u>.	(2.152)
Harold **gave** <u>the book</u> to Elaine.	(2.153)
Harold <u>gave</u> the book to Elaine.	(2.154)

It is being maintained that, if stressed in an oral, spoken utterance,

each of the above examples is a different sentence because of the

implication embodied in the loudly spoken portion of the sentence.

That is, in (2.151), it is meant that only Harold (and nobody else)

gave the book; in (2.152), only Elaine (and nobody else) received the

book; in (2.153), only a book (not something else) was given; and in

(2.154), giving (and not, e.g., lending) is being stressed.

These concepts can be schematized rather simply as follows:

--Harold--gave--the book--to Elaine--

The "blank" spaces indicated by dashes are where one could insert <u>only</u>.

(The possibility of inserting <u>only</u> between <u>to</u> and <u>Elaine</u> is somewhat

dubious as regards grammaticality, hence the asterisk usage above; it

is also the reason why there is no blank space in this position in the

schema above.) Now, due to the fact that this sentence can be restruc-

tured in fourteen different ways (omitting the asterisked cases), and

<u>only</u> can occur with each sentence constituent, one can only assume,

apparently, that a specific function (if such there be) can occur

almost anywhere in the sentence without <u>necessarily</u> changing the

meaning; for if little or no stress is attached in a spoken uttering

of these different formulations, the meaning can remain constant--i.e., that Harold had a book and he gave it to Elaine. Thus, in traditional terms, Harold is always the subject, and Elaine is always the indirect object. Consequently, if one accepts the idea of these functions, then functions must be indicated logically, not grammatically. It would not be impossible to indicate such functions in logical notation, but this will not be done in this work for two reasons: (1) One can always define the propositional content before beginning an analysis-- i.e., agree on the meaning of a particular sentence in a certain context--thus identifying the terms with certain of these traditional functions; and (2) the distinction between subject, object, etc. is very often not clear at all, as has been demonstrated.

One final remark remains to be said on these issues. If arguments (and terms) and logical functions (and relations) designate the basic units in a sentence, then a reasonable analysis can be carried through by indicating how they relate to one another, thus creating an abstract structure of which the sentence is a visible manifestation. That is, the labeling of terms and arguments in sentences is not a labeling of sentences, but of ideas which make up a proposition in sentences. But since logical structure and syntactic structure overlap somewhere, it is convenient to speak of sentences and sentential logic, where propositions and propositional logic are meant. If one defines his categories only in terms of form, function, and distribution, the ways in which they relate to each other to create sentences becomes confused quite often. For example, Hughes does not classify the indirect object type of sentence as a distinct pattern at all.[28] According to him, such a sentence is a combination of more than one

sentence pattern; hence, it is not a simple sentence. This can be illustrated by considering The boy kissed the girl yesterday as being composed of The boy kissed the girl (pattern four) and The boy kissed yesterday (adverbial). In fact, his contention is not unlike some that have been made in this paper. It seriously differs in that he classifies the simple sentence patterns as "exocentric"; however, indirect object sentences are not sentence patterns, but sentence components, and are therefore labeled as "endocentric." The reason stated is that indirect objects and adverbials occupy the same distributional positions; and since adverbs are secondary modifications which indicate lower-level, internal structure, so are indirect objects secondary. The fact that indirect objects do not modify—at least in the same sense as adjectives and adverbs do—does not affect his judgment, in spite of the well-known different views of traditional grammar. Hughes' view seems so patently absurd that it is hardly worth discussing, except that it is a good illustration of how dangerous it is to put too much reliance on distributional criteria for the analysis of sentences. Sentence patterns do merge, as he says, but the fact that one pattern contains an entity that distributes like a different secondary entity does not necessarily indicate that the former entity is also secondary. Anyway, adverbs do not distribute exactly the same as indirect objects, as the following pair demonstrates:

<div style="text-align:center">

John sent Mary a letter. (2.155)

*John sent swiftly a letter. (2.156)

</div>

Swiftly in (2.156) can occur anywhere except after the verb. Recalling the mobility of only when in junction with an indirect object,

It might be argued by some that this argument is not conclusive. <u>Only</u>, however, is traditionally classified as both adjective and adverb, depending on what it modifies. Since <u>only</u> can modify anything in the sentence <u>John sent Mary a letter</u> (as opposed to <u>swiftly</u>), it seems, on distributional criteria, inadvisable to classify it as an adverb. Yet, intuitively, one would hardly want to classify it in the same category as the indirect object, just because it distributes the same way. (One cannot speak of <u>an only</u> as one could of <u>a person</u>, which could be an indirect object in a sentence; however, one could speak of <u>an only child</u>, where <u>only</u> is obviously a quantifier.) Thus, the solution is to be found in the etymology of <u>only</u>: <u>only</u> is equivalent to "the unique <u>one</u>"; it is a peculiar sort of quantifier--and virtually anything may be quantified.

Pattern Six--Adverbial Sentences

Definitional Chaos

This type of sentence is classified traditionally as a predicate adverbial pattern. Hereafter, whenever the term "adverbial sentence pattern" or the like is used, the predicate adverbial is what will be meant. The problem of adverbs has already been met, in passing, in the process of discussing other sentence patterns. Certain adverbial problems relating to those discussions were ignored, and, in truth, not all adverbial problems will be taken up, much less solved, in this section either. The adverbial category traditionally has been very troublesome because in reality, it has always been a "catch-all" classification. Words such as <u>only</u> and <u>not</u>, for example, have been called adverbs. As noted in the last section, <u>only</u> is a quantifier;

the fact that, in morphological form, it ends in -ly, usually associated

with adverbs, is no sure criterion, for some adjectives do likewise

(e.g., She is lovely). The word not is an obvious logical term, as

study of any text on symbolic logic will prove; not merely negates

(usually whole sentences) and to some extent quantifies, as in Not Bob

(but someone else) is coming today. Further evidence of the confusion

in this classification is its definition as a word which may modify a

verb, adjective, or other adverb; such a definition is so all-inclusive

that it defines nothing very well. Some analysts, as will be shown,

even say adverbs may modify entire sentences.

Adverbs as Higher-Order Functions

True adverbs (i.e., of manner) do "modify," but not in the same

way that adjectives do. Adjectives modify logical arguments (or terms),

while adverbs modify logical functions (or relations). Logical

functions and relations are logical predicates (attributes which

specify or characterize arguments and terms). Distributional factors,

along with logical insights, will help to make this clear. In the

following pair, happy is said to be an adjective in (2.157), and an

adverb in (2.158):

$$\underset{\mathbf{a}}{\underline{\text{Sally}}} \;\; \underset{\text{F}}{\underline{\text{is happy}}}. \qquad\qquad (2.157)$$

$$\underset{a}{\underline{\text{Sally}}} \;\; \underset{\textbf{F}}{\underline{\text{is playing}}} \;\; \underset{?}{\underline{\text{happily}}}. \qquad\qquad (2.158)$$

No matter where happily is placed in its sentence, it modifies the

predicate. Thus, the property in the predicate which specifies a

condition of Sally is itself modified. An adverb, then, is a "higher"

function; it specifies a property of a property. This, however, can be symbolized rather like adjectives are, except that the "power function" numeral is superscripted on the adverbial, instead of being subscripted, as it is on adjectives:

$$\underset{a}{\underline{\text{Sally}}}\ \underset{F^1}{\underline{\text{is playing}}}\ \underset{F^2}{\underline{\text{happily}}}. \qquad (2.159)$$

What this amounts to is the transformational idea that the sentence actually contains two predicates, hence two propositions, namely is playing and is happy.

Example (2.159), incidentally, shows the relationship of adjectives to adverbs: the latter derives from the former by a transformational process. Adjectives, on the other hand, may derive from verbs. If we agree, in a given context, that the following two sentences are semantically equivalent (and they can be), then this is easily proved:[29]

$$\underset{a}{\underline{\text{Silver}}}\ \underset{F}{\underline{\text{shines}}}. \qquad (2.160)$$

$$\underset{a}{\underline{\text{Silver}}}\ \underset{F}{\underline{\text{is shiny}}} \qquad (2.161)$$

In any case, predicate nouns, predicate adjectives, and verbs are logical predicates (functions or relations); but an adverb is a higher order of predicate.

Distinguishing Adverbs From Adjectives

What of a sentence such as Harold is a rapid runner? After all, rapid seems to modify the noun (term) runner and should therefore be an adjective by definition. This analysis is illusory, however, for the logical meaning is that Harold (always) runs rapidly; i.e., it is

a categorical statement meaning that

$$\underset{a \quad \in \quad T}{\underline{Harold} \quad \underline{is} \quad \underline{a \ runner}} \qquad (2.162)$$

and

$$\underset{a \quad F^1 \quad F^2}{\underline{Harold} \quad \underline{runs} \quad \underline{rapidly.}} \qquad (2.163)$$

Consequently, whichever form $\underline{rapid}$ takes is immaterial to the logical interpretation. Grammatically, it simply means that when the two predicates are merged into one sentence, the adverb often loses its characteristic $\underline{-ly}$ suffix by a deletion transformation. This, perhaps, explains why, in the entire history of English, there have always been two sets of adverbs: some which evolved into the $\underline{-ly}$ form, and some which evolved into the zero suffix form, e.g., Old English $\underline{heardlice}$ "hardly" and $\underline{faste}$ "fast." The process of deletion is still going on as is seen in the imperative form on road signs: "go slow" rather than "go slowly." When the two sentences (2.162) and (2.163), are merged into $\underline{Harold \ is \ a \ rapid \ runner}$, the two predicates occur in juxtaposition. Since the adverb $\underline{rapid}$ does modify the predicate (in the sense of higher-order predicate), speakers and grammarians who now see a grammatical unit in $\underline{rapid \ runner}$ naturally tend to think of $\underline{rapid}$ as an adjective because nouns take adjective modifiers by definition. They do not recognize the fact that **two** sentences (i.e., two patterns) are involved. Thus, the original meaning of "adverb" (something "connected to" the verb) is a fairly correct logical view; and the additional modificational functions attributed to it by tradition are also fairly correct in a rough-and-ready way, except that mixups in distinguishing adjectival and adverbial functions have caused much classificational chaos.

Such a mixup occurs when juxtaposition causes misunderstanding about the nature, and even existence, of the verb. These facts can be brought into sharp relief if one considers the following so-called predicate nominative sentence pattern:

$$\text{The boy is an excellent musician.} \qquad (2.164)$$

The proposition does not infer that the boy is excellent; it infers that he plays music excellently (i.e., <u>The boy plays excellent music</u>). Hence, the sentence breaks down into the following propositions:

$$\underset{\underset{a}{} \quad \underset{\epsilon}{} \quad \underset{M}{}}{\underline{\text{The boy is a musician.}}} \qquad (2.165)$$

$$\underset{\underset{a}{} \quad \underset{F^1}{} \quad \underset{F^2}{}}{\underline{\text{The boy plays excellently.}}} \qquad (2.166)$$

The direct object <u>music</u> is assumed because that is what a musician does--play music; the word <u>play</u> is likewise assumed, since <u>excellent</u> specifies a property not of the boy himself, but of something he does. So, the complex proposition would be analyzed as

$$\underset{\underset{a}{} \qquad\qquad \underset{F^1}{} \quad \underset{F^2}{}}{\underline{\text{The boy (who is a) musician plays excellently.}}} \qquad (2.167)$$

Therefore, <u>excellent</u> in <u>The boy is an excellent musician</u> is logically an adverbial function. Grammatically, its analysis is chaotic, for the word's classification seems to be based on its form (loss of <u>-ly</u> suffix) and its distribution (juxtaposition to noun); no attention is paid to the fact that semantically the modifier does not specify a property of <u>The boy musician</u>.

If the adverb modifies an adjective, the analysis is similar, but more difficult. As an instance, the sentence, <u>She painted extremely</u>

good pictures, is made up of the following propositions:

$$\underline{\text{She}}_{t_1} \; \underline{\text{painted}}_{2^R} \; \underline{\text{pictures.}}_{u} \qquad (2.168)$$

$$\underline{\text{The pictures}}_{u} \; \underline{\text{were good.}}_{S^1} \qquad (2.169)$$

$$*\underline{\text{The pictures}}_{u} \; \underline{\text{were extremely.}}_{S^2} \qquad (2.170)$$

The peculiar notation will become clear in the explanation which follows. To avoid notational difficulties, all the predicates have been interpreted as relations. (It will be recalled that F's may be considered as one-place relations, and relations many-place functions; the superscript on S^2--that is, not S^1--represents anticipation of further analysis of, comparison with, the other two sentences.) The predicates in the three propositions are all found in the predicate of the parent (first) sentence; this indicates that whatever extremely is, it is not, in some sense, a noun term (= pictures) modifier two levels removed from the noun. The adverb modifies only good, for the third proposition implies The pictures were extremely good, not *extremely pictures. The analysis of the parent sentence, thus, is unlike the analysis of the earlier copula examples in this section, for it contains a complex grammatical predicate which, positionally, is the direct object of the complete sentence, as shown below:

$$\underline{\text{She}}_{t_1} \; \underline{\text{painted}}_{2^R} \; \underbrace{(\; \underline{\text{extremely}}_{S^2} \; \underline{\text{good}}_{S^1} \; \underline{\text{pictures.}}_{u} \;)}_{t_2 \; (= \text{"them"})} \qquad (2.171)$$

Some analysts feel uneasy about accepting anomalous propositions such as *The pictures were extremely. Many classify intensifiers such

as _less_, _least_, _fairly_, _very_, _quite_, _rather_, _more_, _most_, etc. as

belonging to a variant subcategory of the adverb; others, such as

structuralists, assign a special classification to the intensifiers.[30]

(It should be noted that _extremely_ is also an intensifier.) But these

intensifiers are also amplifiers (quantifiers), and _may_ be interpreted,

without incurring severe logical difficulties, as (1) adjectives (noun

modifiers, e.g., _He owns more horses_), as (2) adverbs (e.g., _He ran_

more than he walked), and as (3) "quasi-adverbs" (e.g., _He was more_

angry than . . . / He was more angered . . .). This last (3) case

shows that true adjectives, which always originate as predicates (as

do verbs), are usually (always?) "verbal" in function. Therefore,

the quantifiers which modify such predicate adjectives as _angry_

actually modify logical predications (i.e., verbs or verblike functions);

hence, such quantifier-modifiers may be considered as "adverbs" two

levels beyond the predicators. These intensifiers, then, can indeed

occur as adverbs, as is maintained in traditional grammars. This can

be proven by the very same means that structural linguists use to

disallow the claim--appeal to strictly formal considerations. An

example is the synonymous pair

$$\text{He was a frequent visitor.} \qquad (2.172)$$

$$\text{He visited frequently.} \qquad (2.173)$$

Visitor in (2.172) serves logically just like _musician_ did in an

earlier group of sentences in this section (2.164-7): it indicates

the true verbal, _visited_, as in (2.173). _Was_ in (2.172) only indicates

tense, person, and number; it is not a logical sign expressing

equality, membership, or the traditional idea of predicate nominative

(with the adjacent noun phrase). In (2.173), _frequently_ is obviously an adverb of frequency, so the analysis is

$$\underset{a}{\text{He}} \ \underset{F^1}{\underline{\text{visited}}} \ \underset{F^2}{\underline{\text{frequently}}}. \qquad (2.174)$$

Now, if the verb is converted to a noun, the _frequency_ word may still modify it, and itself be modified:

$$\begin{array}{c}
\text{fairly} \\
\text{most} \\
\text{quite} \\
\text{very} \\
\text{He was an extremely frequent visitor;}
\end{array} \qquad (2.175)$$

and transforming _visitor_ to _visited_ causes no problems:

$$\begin{array}{c}
\text{fairly} \\
\text{most} \\
\text{quite} \\
\text{very} \\
\text{He visited extremely frequently.}
\end{array} \qquad (2.176)$$

The result is not exactly two adverb modifiers of the verb; it is an instance of quantitative increase in "power" function, for _extremely_ modifies not _visited_, but _frequently_, which is symbolized as

$$\underset{a}{\text{He}} \ \underset{F^1}{\underline{\text{visited}}} \ \underset{F^3}{\underline{\text{extremely}}} \ \underset{F^2}{\underline{\text{frequently}}}. \qquad (2.177)$$

If one thinks of this kind of modification in a more mathematical way, the function would look like $F^2(3)$, where (1) is "understood."

Where does all this lead? Well, first of all, it shows that _extremely_ (= _very_, etc.) can occur directly after the verb (ad+verb) just like _frequently_. In He visited frequently, it also shows that the _-ly_ form _can_ occur last without getting an anomalous sentence like

*The pictures were extremely; and the fact that both of these (frequently and extremely) modify logical predicates ("visited" in He was a frequent visitor and extremely in He visited extremely frequently) shows intensifiers and adverbs often, if not always, function basically alike, and are therefore both adverbs in such instances. The only difference is one of "power." In He visited extremely frequently, for instance, it is a case of an adverb (extremely) modifying another adverb (frequently), which in turn modifies the verb visited, which in turn is a transformation of He was a frequent visitor. By their very nature, semantically speaking, intensifiers can be multiplied to infinity (theoretically) in a sentence. This is patently not the case with quantifier-adjective modifiers. One cannot say *He was a frequent, frequent visitor; thus, here is further evidence that frequent in this sentence is not an adjective. But one can say He was very very, ... angry, where extremly could have been substituted for very. It is only stylistic considerations that dictate that very should be used in such a multiple construction, and not extremely. It would not be difficult to add a symbol to the stock offered so far that could be used to indicate that the same word (very) was being used for each "higher power"; but that will not be done, for this work is not a complete logical grammar, just a sketch of some of the things which should be in one, and simplicity is desirable wherever it is possible.

It is necessary to note that resorting to distributional facts in an effort to define adverbs is a very dangerous thing. Distributional facts were cited above, but only as suggestive evidence that a corrlation between intensifiers and most -ly adverbs might be established, if other relevant factors also dovetailed. As was seen, the deciding

factors were, in fact, of a logical nature. This being so, it seems

of little use to employ the structural maneuver of classifying and

subclassifying various types of "adverbs" according to where they

occur. The problem seems to be that structuralists (and many trans-

formationalists) have accepted the traditional view that adverbs

express time, place, manner, conditions, etc. Then, they have tried

to adapt the traditional view to their own views. Distribution, as

such an adaptation, can be proven to be almost useless by a simple

perusal of a schematic sentence:

--John--can--bat--the ball--.

One should try placing traditional adverbs in each of these slots

indicated by dashes--i.e., words such as <u>always</u>, <u>never</u>, <u>seldom</u>, <u>rarely</u>,

<u>yesterday</u>, <u>last week</u>, <u>early</u>, <u>late</u>, <u>at ten o'clock</u>, <u>hours</u>, <u>for a week</u>,

<u>home</u>, <u>for a minute</u>, <u>until dawn</u>, <u>since midnight</u>, <u>thoughtfully</u>, <u>truthfully</u>,

<u>habitually</u>, <u>often</u>, <u>nicely</u>, etc. After a little time spent in this game

of slot-filling, the investigator will find that while <u>some</u> patterning

does seem recognizable at times, the variety of patterning is so great

that either there is no distinctive adverbial pattern or not all of

these words are adverbials. A glance at the above list of "adverbs"

will also prove that classifying such adverbs according to morphological

form is futile. Since logical analysis provides a more sure technique

than either distributional or morphological analysis, one can stress

the logical approach most of the time.

For the purposes of completeness, the well-known case of preposi-

tional substitution should be mentioned. One example will suffice. In

<u>He performed the operation with care</u>, the prepositional phrase, <u>with care</u>,

is semantically equivalent to _carefully_, and it modifies the verb

performed. Hence, in this case, logical analysis agrees with tradi-

tional grammatical theory. One may not make such an analysis solely

on the basis of similar form, however. For example, in a sentence, the

expression _with minuteness_ might occur, which is equivalent to _minutely_;

but in a sentence where _in a minute_ occurs, one may not substitute

*minutely to refer to time.

Temporal and Locative Expressions

Some logicians would not agree with the tradition in grammar

which classifies temporal and locative expressions as adverbial modi-

fiers. Hans Reichenbach is one such logician. He says: "Neither are

the so-called adverbs of time and place _adverbs_; they are terms

specifying the time and space argument to which the sentence as a

whole refers."[31] (He also classifies frequency, time, and space rela-

tions as higher-order logical functions.) Reichenbach cites no specific

examples, nor does he give a detailed explanation. While there are

cases where it would seem difficult to substantiate Reichenbach's views,

it is not hard to see how he arrives at these opinions. In comparing

She sings excellently with _She sings frequently_, for example, it can

certainly be seen semantically that _excellently_ says something about

sings (i.e., _sings_ is qualified); but such a close connection between

sings and _frequently_ is not so obvious. _Frequently_ seems, rather to

say something about _She sings_, not _sings_ only. However, recalling

earlier analyses, in the two pairs (1) _She is an excellent singer_ / _She

sings excellently_ and (2) _She is a frequent singer_ / _She sings

frequently_, the adverbs seem equally and similarly manipulable; and

their structures are similar both syntactically and semantically.
Therefore, frequency is held here to be one of several quantifier-
adverbs. In the case of time and space, is it not possible to
consider such expressions relationally? That is, time and space
expressions do not modify in the usual sense; they denote simply
when and where the action expressed by the verb took place; thus, they
relate to the whole sentence, whose core is the verb. This solution,
which accords with the intuitions of many people, is a compromise, then,
between certain logicians and other people (who are not necessarily
illogical simply because they are not professional logicians). Time
and space expressions are, thus, not examples of higher-order logic
and are not modifiers as frequency is. They are just the simple
relations that have been dealt with herein all along. Therefore,
sentences containing such expressions are symbolized in the normal
way, as in

$$\underset{t_1 \quad {_4}R}{\underline{\text{He arrives}}} \ \underset{t_2}{\underline{\text{in church}}} \ \underset{t_3}{\underline{\text{(on) Sundays}}} \ \underset{t_4}{\underline{\text{at ten o'clock.}}} \qquad (2.178)$$

The notation indicates relationships, not "adverbialhood." A logical
approach employing higher-order methods would require more complexities
in the notational system. A traditional approach employing the present
symbolism would require that the last three t's be converted to R's.
Of course, the semantics of the "adverbial" expressions, as always,
must be kept in mind--i.e., whether modification is intended or not--
as in He made a timely remark versus He arrived on time.

Instrumental Expressions

Instrumental expressions, too, are usually classified as

adverbials. This is a mistake which is caused by the belief that <u>any</u>

grammatical unit can be expanded by (or substituted with) modification.

But <u>He spoke with kindness</u> (= <u>He spoke kindly</u>) is not comparable to

<u>He killed her with an axe</u>; in the latter, the prepositional phrase is

a simple instrumental relation which is symbolized in the normal way:

$$\underline{\text{He}}_{t_1} \underline{\text{killed}}_{3^R} \underline{\text{her}}_{t_2} \underline{\text{with an axe}}_{t_3}. \qquad (2.179)$$

Instrumental and locative expressions are often ambiguous:

$$\underline{\text{He}}_{t_1} \underline{\text{saw}}_{3^R} \underline{\text{the sentry}}_{t_2} \underline{\text{with his binoculars}}_{t_3}. \qquad (2.180)$$

$$\underline{\text{He}}_{t_1} \underline{\text{saw}}_{3^R} \underline{\text{her}}_{t_2} \underline{\text{on the plane}}_{t_3}. \qquad (2.181)$$

Without a context to guide one, no grammatical or logical analysis is

possible, except that one may consider believable contexts, and then

proceed analytically on the basis of probabilities. Such sentences

need to be re-written or re-spoken in a clearer style, though this

fact does not affect the knowledge that the third term is in relation-

ship to, but not subsidiary to, the verb <u>saw</u> any more than <u>He</u> or <u>her</u> is.

Parenthetical Expressions

So-called "parenthetical expressions" also defy clear analysis

many times, but with some semantical tinkering some are found to be

adverbial and some are not, as in

To be sure, I can go. (= I <u>certainly can</u> go.)	(2.182)
Of course, she will come. (= She will <u>certainly come</u>).	(2.183)
Without a doubt, he's a teacher. (= He is <u>doubtlessly</u> a teacher.)	(2.184)

The underlining in (2.182) and (2.183) indicates the verb and its adverbial modifier, but <u>certainly</u> could be a "sentence modifier, (see below): <u>Certainly, I can go</u>; <u>It is certain (= certainly) she will come</u>. In (2.184), <u>doubtlessly</u> only appears to be an adverb (in form), but logically it modifies nothing in the sentence; it implies something rather like <u>There is no doubt he is a teacher</u> (= <u>No doubt exists (in my mind) that he is a teacher</u>) (= <u>I do not doubt that he is a teacher</u>) (= <u>It is certainly true that he is a teacher</u>). Thus, in (2.184) an embedded sentence is implied by the so-called adverbial. What is interesting here is that many would claim that the meanings of all three parenthetical expressions are synonymous! If this is true, the above analyses at least prove that whole sentence meanings (propositions) must be considered before any analysis of their parts is attempted.

What of a sentence such as <u>In any case, I know the answer</u> (= <u>Anyway, I know the answer</u>)? Does <u>In any case</u> mean <u>certainly</u> (modifying <u>know</u>)? If it does not, then this phrase, like the <u>-ly</u> form, <u>doubtlessly</u>, above is an example of what some call "sentence modifiers." This term is fairly apt, but applications of the concept, in practice, tend to confuse levels. A logician would say that a sentence modifier, since it is not part of the sentence, strictly speaking, is an example of a higher-order logical function; thus, sentence modifiers would not be adverbials at all, by definition.

Again, a simpler compromise can be effected, which derives from the insights of transformational grammar (though members of this school of thought are not consistent in their handling of sentence modifiers). In <u>He behaved in a natural manner</u>, the adverbial

implication is a variant of that in <u>He behaved naturally</u>. But in <u>He behaved naturally</u> the ambiguity of the meaning and function of <u>naturally</u> can only be got over by recourse to the intonation and stress patterns of speech. It may be synonymous to the previous sentence; on the other hand, transformations of word, intonation, and stress reveal a different meaning (though word re-ordering is sufficient): <u>Naturally, he behaved</u>. This last case is an example of a sentence modifier equal, perhaps, to <u>It was natural (= normal) for him to behave (= that he behave)</u>. Such embedding, even though drastically reduced to one or a few words, is still embedding and obviously not a case of "adverbial-hood" or simple sentence patterning. Transformationally, then, one may consider such a case as an example of stringing propositions together in a kind of "compounding," for it is not a case of clear subordinating modification. Hence, this subject is inappropriate here (though it needed identifying here) and will be pursued later in this work.

Prefixed Adverbs

A particularly peculiar form of adverb cited in the traditionally oriented handbooks is the so-called subclass of "prefixed adverbs." Most of them indicate location, and therefore <u>could</u> be analyzed like the other locative expressions described earlier--i.e., as simple relational terms:

$$\underline{\text{The passenger}}\ \underline{\text{went}}\ \underline{\text{aboard}}\ \underline{\text{the ship}}. \qquad (2.185)$$
$$\quad\ t_1 \qquad\quad 3^R \qquad t_2 \qquad t_3$$

However, logically speaking, <u>went</u> is merely acting as an auxiliary indicating time; the idea of <u>going</u> is superfluous, for the meaning clearly is

$$\underline{\text{The passenger}} \ \underline{\text{boarded}} \ \underline{\text{the ship}}. \qquad (2.186)$$
$$t_1 \qquad {}_2{}^R \qquad t_2$$

Likewise, in

$$\underline{\text{She}} \ \underline{\text{went}} \ \underline{\text{away}}, \qquad (2.187)$$
$$t_1 \quad {}_2{}^R \quad t_2$$

the meaning appears to be (with word change but not semantic change):

$$\underline{\text{She}} \ \underline{\text{left}}. \qquad (2.188)$$
$$a \qquad F$$

(The original verb could have been retained in child-language: $\underline{\text{She}}$ $\underline{\text{goed}}$.) As far as word change goes, $\underline{\text{went}}$ itself derives from a different Old English verb than does $\underline{\text{go}}$.) It makes no difference that English has no verb, $\underline{\text{way}}$ (= $\underline{\text{left}}$); many language have cases where words unaccountably can or cannot cross over part-of-speech boundaries. For example, one can say $\underline{\text{He lightened his study load by dropping a course}}$ (from adjective $\underline{\text{light}}$), but the antonym of the verb does not occur, for one cannot say *$\underline{\text{He heaviered his load}}$ (from adjective $\underline{\text{heavy}}$); one must say $\underline{\text{He made his load heavier}}$. One can say $\underline{\text{He lowered his gun}}$ (from adjective $\underline{\text{low}}$), but not *$\underline{\text{He highered his gun}}$ (from adjective $\underline{\text{high}}$), even though the writer's ten-year-old son used exactly this expression recently.

The analyses above work well in these sentences:

They drifted apart (= $\underline{\text{They}}$ $\underline{\text{parted}}$). $\qquad (2.189)$
$$a \qquad F$$

They went across the street (= $\underline{\text{They}}$ $\underline{\text{crossed}}$ $\underline{\text{the street}}$). $\quad (2.190)$
$$t_1 \qquad {}_2{}^R \qquad t_2$$

The ship went aground (= ?* $\underline{\text{The ship}}$ $\underline{\text{grounded}}$). $\qquad (2.191$
$$a \qquad F$$
(Cf. The ship was grounded by. . . .)

The hero moved (= went) ahead. . . (= the hero headed. . .) (2.192)
(Cf. <u>The hero</u> <u>headed</u> <u>north</u>)
t_1 $_2$R t_2

This kind of analysis does not always <u>seem</u> to work:

<p align="center">They walked four abreast.   (2.193)</p>

There are three ways of looking at this: (1) <u>four abreast tells</u> "how"
(manner) and is therefore an adverb; (2) there is simply no verb in
English to express the concept, but there could be--e.g., <u>They walked</u>
<u>(went beside) each other</u>; or, (3) the expression is to be interpreted
as <u>They walked side by side</u>, in which case <u>side by side</u> is a term
relation indicating location. The writer prefers the second analysis,
though admittedly the interpretation is intuitive. In any case, each
of the three analyses is amenable to the notation that has been intro-
duced; the problem is one of categorization. Prefixed adverbs have
been so-called because etymologically <u>a-</u> means "on," as in French <u>à bord,</u>
"on board." However, etymological analyses are notoriously slippery,
for meaning changes, sometimes drastically. In Old English and some
other Indo-European languages the <u>a-</u> indicates direction: <u>to(ward)</u>;
in the ablative case of Latin, it indicates direction from; thus, in
<u>They were set adrift</u>, one might on intuitive grounds object to the
interpretation <u>They drifted</u>, but compare the sentence with <u>to</u> (=<u>a-</u>):
<u>They were set to drifting</u>. No pretence is being made here of having
solved the problem of prefixed "verbals"; but it does seem that classi-
fying all these words as adverbs is subject to question on logical
grounds. In most cases, it seems that the <u>a-</u> is logically a verb
marker or signal; its obvious verb usage in certain archaic expressions
(still heard occasionally nowadays) helps to support the earlier

analyses above--e.g., <u>He's gone a-sailing on the river</u>. Yet, there are cases such as <u>She's ahorse</u> (<u>She's on horseback</u>); is the traditionalist correct in assuming that <u>ahorse</u> is an adverbial expression of location, or is the logician right in assuming that <u>ahorse</u> predicates what the subject is doing (<u>sitting</u> or <u>riding a horse</u>)? Even this latter interpretation might infer (as shown) that the copula is merely an example of incomplete predication (<u>sitting</u> or <u>riding</u>), and <u>ahorse</u> is again a locative term. Since these prefixed forms are rather archaic, one really needs to know something about the extralinguistic cultures that gave rise to them. For example, when the sport was common, it was easy to hear such expressions as <u>He's gone a-hawking</u> / <u>He's gone hawking</u>. Logically speaking, since one does not always have recourse to earlier cultural information, perhaps each case must be solved on its own merits, rather than trying to force these similar-looking expressions into one class on the basis of form or etymology; the same forms occur with different parts of speech sometimes, and etymology is constantly shifting, as has been noted.

Nonstandard Adverbials of Manner

A case where etymology may give a clue to analysis is the substandard (slang or dialectal) suffix <u>-like</u> used by some speakers, and often classified as an adverb of manner in those texts which discuss it at all. Some historical linguists speculate that the Old English adverbial suffix <u>-lice</u> had come to mean "like" (though its earlier meaning appears to be in doubt). The known history records the reduction of <u>-lice</u> to <u>-li</u> (phonetically [li]) in the middle of words (<u>holiness</u>) and to <u>-ly</u> when terminal (<u>holy</u>). The recent rise in the

use of -like has, as a result, produced forms such as manly and manlike.

While the exact semantics of the two forms is somewhat different (the

first stresses virility), the basic meaning remains "in the manner of

a man" or "characteristic of a man." THe manner interpretation can be

seen in such words in sentences like Let's go easylike on this proposal,

which is equivalent to Let's go easily. . . . Avoiding the "imperative"

mood, this may be symbolized as usual:

$$\underset{a}{\text{We}} \;\; \underset{F^1}{\underline{\text{shall go}}} \;\; \underset{F^2}{\underline{\text{easylike (= easily)}}} . \; . \; . \; . \qquad (2.194)$$

In terms of social status, the suffix -wise, which has been very

productive in recent years, and which can be added to virtually any

noun, is somewhat on a par with -like. The analysis here does not,

however, agree with the traditionalist view that -wise forms are

necessarily adverbials of manner. Some are; some are not. The tradi-

tionalist tends to be rather selective about his examples. For instance,

one source cites snake-wise (in the manner of a snake).[32] Certainly,

this seems to be adverbial for it means

$$\underset{a}{\text{*He}} \;\; \underset{F^1}{\underline{\text{crawled}}} \;\; \underset{F^2}{\text{"snakely."}} \qquad (2.195)$$

On the other hand, another source cites publicity-wise and campaign-

wise as adverbial examples.[33] Now, in a social context, such expressions

are not adverbial at all, as seen in the following interpretations:

$$\underset{t_2}{\begin{array}{l}\underline{\text{Publicity-wise}}\\ \underline{\text{Campaign-wise}}\\ \underline{\text{Newspaper-wise}}\\ \underline{\text{Weather-wise}}\end{array}} \;\;\; , \;\; \underset{t_1}{\underline{\text{he}}} \;\; \underset{2^R}{\underline{\text{is knowledgeable}}} . \qquad (2.196)$$

The order of the terms is based on the idea that the meaning is

$$\underline{\text{He}} \quad \underline{\text{knows about}} \quad \underline{\text{publicity}} \quad \text{(etc.)} \qquad \text{(2.197)}$$
$$t_1 \qquad \quad 2^R \qquad \quad t_2$$

This analysis is perhaps supported by the fact that the -wise expressions can occur either initially or finally in the sentence; in final position, the direct object function is fairly obvious. The particle about can even be deleted.

Is it possible to find some insight which will allow one to re-analyze He crawled snakewise in the manner of the above case? One possibility is

$$\text{*}\underline{\text{He}} \quad \underline{\text{snake-crawled}} \quad \underline{\text{to the house.}} \qquad \text{(2.198)}$$
$$t_1 \qquad \quad 2^R \qquad \qquad t_2$$

The result is thus not a direct object sentence, but a locative one; it is locative, however, only because of the added content; snake-crawled is a verb. One might quarrel about such a verb form, but such forms occur frequently in popular novels and popular speech. Other examples are:

He cat-footed it across the roof.   (2.199)
He snaked his way between the rocks.   (2.200)
The hunter dogged the trail of his adversary.   (2.201)
He waddled bearlike (= bear-walked) across the field.   (2.202)

Such sentences do not find their way into grammar books because grammarians simply refuse to try to analyze them; they are regarded either as substandard or as unanalyzable. The above cases illustrate that one could think of them as manner expressions (i.e., as semantic substitutes for -ly forms), but this is not necessary; certainly, the -wise formations illustrate this contention, for a sentence such as

Professor-wise, he knows a lot says nothing about professors (in the manner of professors)—it speaks of his knowing a lot about professors. Again, it may be necessary to treat each case separately according to its meaning. Form is of little use in these cases. For example, if cat-footed means walked like a cat (= *walked "catly"), how would the traditionalist handle a sentence such as He cat-footed it?

The whole idea of classifying certain forms as manner adverbials just because they seem to substitute (semantically) for -ly forms is rife with problems For example, the writer heard the following sentence on a radio program recently:

> President Ford will whistle-stop around the country (2.203)
> to gather support for his energy program.
>   --Commentator Ed Caine, KLEC, Okla. City, Jan. 17, 1975

The meaning (very roughly) seems to be that Ford will travel in the manner of trains that stop frequently to let him speak. Surely, the best way to analyze whistle-stop is simply as a verb in meaning, position, and form (e.g., it may form a past tense, whistle-stopped).

Quirk and Greenbaum note -style and -fashion forms are also manner adverbials.[34] Using their examples, in sentences, note what can be done:

> He rode (on) his horse cowboy style (in the style of cowboys). (2.204)
> He dressed peasant fashion (in the fashion of peasants).   (2.205)

If these denote in the manner of (as the authors insist), then they may still be reduced forms of:

> He rode (on) his horse the way (= like) a cowboy rides his   (2.206)
>   horse.
> He dressed (in) the way (= like) a peasant dresses.   (2.207)

The use of <u>like</u> above, (2.206-2.207), does not accord with prescriptive grammar rules, but is, nevertheless, quite common in popular American speech nowadays. In these cases, <u>the way</u> (or <u>like</u>) are equivalent to <u>in the manner of</u>. In view of the embedding in the examples, this writer feels that such traditional <u>ad hoc</u> methods of definition as mere substitution (and no other considerations) are just misconceived. Many manner expressions, of course, are not adverbial in any sense. They indicate comparison, as the popular cigarette slogan-advertisement reveals:

Winston tastes good <u>like a cigarette should</u>.   (2.208)
(= Winston tastes good <u>as a cigarette should taste</u>).

This seems to be a sound analysis; reverting to Quirk and Greenbaum's <u>cowboy style</u>, a similar analysis is desirable:

He rode his horse cowboy style.   (2.209)
(= He rode his horse <u>like (as) a cowboy should ride</u>).

Interpreting the <u>like</u>-clause as an adverbial modifier is extremely far-fetched. Such sentences are similar to <u>John is taller than I am</u>, only more complex.

Expletives

The final so-called adverbial sentence form that is now to be considered is often called the expletive sentence. The term "expletive" is applied when the adverblike words do not seem to be functioning as adverbs, but as meaningless first-slot subject fillers. The confusion of adverb versus expletive is easy to recognize, for even when a proper social context is supplied, it is not always easy to guess the speaker's

semantic intent. ·Such an example is:

$$\text{There is a book on the table /} \qquad (2.210)$$

$$\underset{\substack{t_1 \quad 2^R \quad t_2 \quad t_2}}{\underline{\text{A book} \ \underline{\text{is}} \ \underline{\text{there}} \ \underline{\text{on the table}}.}} \qquad (2.211)$$

Sentence (2.211) is interpreted as containing a verb of incomplete

predication; that is, the copula is equivalent to something like

is lying; the word there is in apposition to on the table, which

simply specifies the meaning of there. While (2.210) could be inter-

preted similarly--There lies a book on the table / A book lies there

on the table--most analysts (who are native speakers) seem to feel that

the semantic force of the sentence is

$$\underset{\substack{t_1 \quad 2^R \quad t_2}}{\underline{\text{A book} \ \underline{\text{is}} \ \underline{\text{on the table}}}}, \qquad (2.212)$$

where there has been deleted. In this interpretation, the assumption

has been made that there in the original version merely functions as

a subject slot filler; hence, the "subject" and predicate mean There

exists, and the transformational (symbolized) form is, therefore,

equivalent to A book exists on the table. In spite of the fact that

this is the usual interpretation, the present writer (also a native

speaker of English) feels that it is incorrect. Exists seems to be a

very strange way to express what is otherwise more normally expressed

as A book is lying (there) on the table. Hence, the word there, if it

is overt, is a locative expression, often used when one points with

one's finger, for example, or stares with one's eyes.

Nevertheless, interpretations such as that above are not always

so easy to come by. An instance is

$$\text{There is a storm brewing,} \qquad (2.213)$$

which must be equivalent to

$$\underline{\text{A storm}}_{a} \ \underline{\text{is brewing}}_{F}, \qquad (2.214)$$

for this sentence (as a whole) does seem to refer to a state of affairs (existence). It is certainly not equivalent to the following two versions of one and the same locative expression:

$$\underline{\text{A storm}}_{t_1} \ \underline{\text{is brewing}}_{2^R} \ \underline{\text{there}}_{t_2}. \qquad (2.215)$$

$$\underline{\text{There}}_{t_2}, \ \underline{\text{a storm}}_{t_1} \ \underline{\text{is brewing}}_{2^R}. \qquad (2.216)$$

The above locative interpretations are termed adverbial by traditional grammarians. Whether one calls there in these sentences a locative relation or an adverbial function, it is certainly evident that neither is equal to

$$\text{There is a storm brewing there,} \qquad (2.217)$$

which means something like

$$\text{The fact is that a storm is brewing there,} \qquad (2.218)$$

where the first noun phrase (etc.) means The fact exists: namely, that a storm is brewing there. Hence, such a sentence is not a simple pattern at all, but is a case of one sentence being embedded in another.

Recalling the discussion concerning existence in section one of this chapter, it is now possible to state that the simplest sentence form of all, logically speaking, is the one-word proposition; that is,

a sentence containing no argument, only a predication; more properly
one should say that the predication contains within itself its own
argument:

$$\text{It } \underline{\text{is raining}} \text{ (now)} \qquad\qquad (2.219)$$
$$\text{F}$$

or

$$\text{It } \underline{\text{rains}} \text{ (every year).} \qquad\qquad (2.220)$$
$$\text{F}$$

Such sentences prove that the most important part of a sentence is its
predication. It _is_ possible to conceive a "subject," though none may
exist. One could, for instance, insert _The sky_ for the variable _It_,
thus claiming that the word is not meaningless at all, but merely a
pronoun. On the other hand, one might say that _rain_ itself is both the
subject and the predicate, and that the subject has been deleted and
has been replaced by a pronoun or verb deletion has taken place. That
is, the sentences mean

$$\text{(Rain) is raining (= falling)} \qquad\qquad (2.221)$$

or

$$\text{(Rain) rains (= falls).} \qquad\qquad (2.222)$$

These cases are further supported by sentences noted earlier: _I_
dreamed a dream, _I lived a life of sin_, where verb and object noun
forms are simply somewhat different _aspects_ of the same thing.

One-word propositions such as (2.219-2.220) should not be confused
with transferred discourse. In a "sentence" such as "Yes!" the

utterance implies previous knowledge, hence a previous identical proposition which has been deleted because of its unnecessary redundancy. Such a sentence is simply an answer, for example, to a sentence such as "Are you coming?" Other examples are: "How do you feel?" ("I feel) good"; "Where are you going?" ("I'm going) there" (pointing to some place with one's finger).

Finally, a sentence such as

$$\text{It is hot (here) in this house} \qquad (2.223)$$

is deceptive. If It is raining and It rains be interpreted, respectively, as Rain is raining (present progressive aspect) and Rain rains (simple present tense), then It is hot in this house is a kind of "passive voice" equivalent to This house is heated (by the sun). The implication, on the other hand, might be It is hot (for a person) in this house; in this case, is hot is still a "passive voice," for if the prepositional phrase is made explicit and replaces It, the result is A person is (= feels) hot (= it) in this house. One could then also say in this instance, that It is a redundant pronoun variable for hot; such an interpretation would be similar to There is a book on the table, where the "expletive" (locative) is redundant. Thus, the reason the "expletive" exists in many of these kinds of sentences seems to be because it functions quite often as a variable of something (explicit or implicit) and not only as a meaningless subject slot filler.

Summary

Grammars: Generative, Case, and Logical

The knowledgable reader has, no doubt, by now noticed a number of

similarities of the approach taken in this work to that used in case

grammars and generative semantics (case grammar and generative semantics

are essentially two aspects of the same thing), in spite of the fact

that the writer has dissociated himself from these schools of thought.

There are, nevertheless, important differences. First, no recourse to

(or belief in) deep structure is posited. Propositional meaning

simply refers to the speaker-hearer's thought--not where the thought

exists. Second, transformations are indeed posited, but on surface

structures only. Third, as a consequence, it is maintained that it

is basically performance (not competence) that requires linguistic

description. Fourth, the so-called "roles" employed in case (generative)

semantics, though based on the logical conception of the primacy of the

verb, are misconceived; they, in fact, look suspiciously like just

different names for the traditional ideas of "subject," "object," etc.

A logical approach using the concept of "relation," being more

general, avoids the problem of classifying roles. Langendoen offers

the following examples to illustrate the primacy of the verb in a case-

grammar approach:[35]

John sent the news to the Congressman by telegram.   (2.224)
 x   y   z   w

The Congressman received the news from John by telegram.   (2.225)
  z   y   x   w

The news reached the Congressman by telegram.   (2.226)
  y   z   w

A telegram conveyed the news to the Congressman.   (2.227)
  w   y   z

Examples (2.224-2.227) show that, even though almost the same propo-

sition is indicated in all of them, the verb in each case indicates a

different relationship to the underlined roles. This analysis accords

with the approach in the present work. They also illustrate the fact

that the various orderings conflict with the traditional ideas of

functions; the "subject," for example shifts to a different role in

each sentence. To avoid the problem of traditional functions,

Langendoen reclassifies these as "agent" (John), "patient" (the news),

"goal" (Congressman), and "instrument" (telegram). It seems obvious

that these are merely new terms (somewhat expanded semantically at

times) for "subject" (John), "direct object" (the news), and "indirect

object (to the Congressman). Langendoen glosses over the problem of

how John and from John function in the first two sentences, by saying

that the latter is the role of "source" which is related to the former

case of "agent." How they are related, he never says--because this

system of classification has the same built-in problems (almost) as the

traditional scheme. "We conclude," he says, "that the deep structure

of a sentence of the propositional core in English must identify the

main predicate and the roles associated with it."[36] Identifying the

main predicate is certainly essential, but why a deep structure must

be posited is not clear. Manipulation of items need not imply a

search of one's subconscious. All that is necessary is to determine

how the speaker relates various items to one another as he performs

these algebraic gyrations.

Sentence (2.224) also raises another possible problem. It concerns

the instrumental phrase. According to the logical system already

outlined, this sentence would be analyzed thus:

$$\underline{\text{John}} \quad \underline{\text{sent}} \quad \underline{\text{the news}} \quad \underline{\text{to the Congressman}} \quad \underline{\text{by telegram.}} \qquad (2.228)$$
$$t_1 \quad 4^R \quad t_2 \qquad\qquad t_3 \qquad\qquad t_4$$

But such an analysis may be lacking in insight, for the meaning is

clearly

$$\underline{\text{John}} \ \underline{\text{telegrammed}} \ \underline{\text{the news}} \ \underline{\text{to the Congressman}}. \qquad (2.229)$$
$$t_1 \qquad {}_3{}^R \qquad t_2 \qquad t_3$$

Whatever the reader's reaction to such a radical analysis may be, he

must admit that all the semantic content has been retained; it illus-

trates, once again, a way in which one pattern may be absorbed by

another pattern. This could not have been done with He killed her

with an axe, for the result would have been

$$\underline{\text{He}} \ \underline{\text{axed}} \ \underline{\text{her}}, \qquad (2.230)$$
$$t_1 \quad {}_2{}^R \quad t_2$$

and the question of whether or not he killed her is left open. The

point is, unlike Langendoen's, that there is not necessarily a clear

separation of "case" (instrumentality role here) from the main verb.

Hence, the main predicate (or "propositional core," as Langendoen calls

it), which he thinks is so sacrosanct, is itself susceptible to inter-

ference because of its logical relationship to the terms in a

communication. Thus, if one wishes, one can interpret John sent the

news by telegram as a transformation of John telegrammed the news--a

case of separating out a semantic "feature" (in Chomsky's sense) from

the verb, namely send. Alternatively, one could say the latter form

is a case of the application of the instrument absorption transfor-

mation, if one thinks the former case is, in some sense, primary

(= deep structure in generative theory).

Verbal Primacy

The considerations of this section have again pointed out the need

for a more logical approach to syntactic analysis. Just analyzing

word meanings and sentence meanings as being somehow mutually exclusive

will not suffice. Frege's idea that a sentence is a kind of continuum

between the two is an essential insight lacking in much grammatical

work. Nevertheless, it is clear that within sentences containing verbs

as predicates there is some priority associated with verbs (as Langendoen

has demonstrated above). For this reason, the whole of Chapter III will

deal with verbal formulations of various types.

FOOTNOTES

[1]George Hemphill, <u>A Mathematical Grammar of English</u> (The Hague, 1973), p. 21. The example comes originally from W. van O. Quine, <u>Elementary Logic</u> (Cambridge, Mass., 1966), p. 26. Partly paraphrased and partly quoted.

[2]Norman C. Stageberg, <u>An Introductory English Grammar</u> (2nd ed., New York, 1971), pp. 67, 371.

[3]George O. Curme, <u>Syntax</u> (Boston, 1931), p. 26.

[4]Ibid., pp. 26-28, 36. Most of these are Curme's examples-- but with adaptation and elaboration in some cases.

[5]Ibid., p. 38.

[6]David A. Conlin, <u>Grammar for Written English</u> (Boston, 1961), p. 118.

[7]Ibid.

[8]Hemphill, p. 73.

[9]For a more rigorous explication of this topic, see: Hans Reichenbach, <u>Elements of Symbolic Logic</u> (New York, 1947), pp. 252-253.

[10]Randolph Quirk and Sidney Greenbaum, <u>A Concise Grammar of Contemporary English</u> (New York, 1973), p. 353.

[11]Stageberg, pp. 173-174, exercise no. 5.

[12]D. Terrence Langendoen, <u>Essentials of English Grammar</u> (New York, 1970), p. 102.

[13]Ibid., p. 103.

[14]Stageberg, p. 173.

[15]Ibid., p. 180.

[16]Hemphill, p. 78.

[17]Stageberg, p. 180. Adapted.

[18]Quirk and Greenbaum, pp. 359-360. The authors' analysis of "containing" verbs mistakenly posits the possibility of applying the passive transformation.

[19]Quirk and Greenbaum, p. 358.

[20]R. W. Zandvoort, A Handbook of English Grammar (3rd ed., Englewood Cliffs, New Jersey, 1962), pp. 200-201.

[21]Ibid.

[22]Ibid., p. 200. Adapted.

[23]Ibid.

[24]Ibid. Zandvoort uses the interrogative form, Will waiting do him any good? This does not affect the analysis, however.

[25]Stageberg, p. 184.

[26]John P. Hughes, The Science of Language (New York, 1964), p. 165.

[27]Ibid., pp. 166, 165.

[28]Ibid., p. 165.

[29]R. A. Jacobs and P. S. Rosenbaum, English Transformational Grammar (Waltham, Mass., 1968), p. 100.

[30]Conlin, pp. 131, 147-148. Conlin classifies them as "structure words" (i.e., marking either adjectival or adverbial position) which are "unclassifiable." Conlin's book uses both traditional and structural linguistic criteria and methods.

[31]Hans Reichenbach, Elements of Symbolic Logic (New York, 1947), p. 308.

[32]Quirk and Greenbaum, p. 221.

[33]Barbara H. Strang, Modern English Structure (2nd ed., New York, 1968), p. 184.

[34]Quirk and Greenbaum, p. 221.

[35]Langendoen, p. 62.

[36]Ibid., p. 63.

CHAPTER III

VERBALS

Infinitive Phrases and Clauses

Beginning with this chapter, more complicated sentences will be discussed, although there will be some resemblance to examples already covered where it was seen that just as there is often no absolute division between the six simple sentence patterns, there is, likewise, often no absolute division between the simple and the not-so-simple sentences. Consequently, there will be also occasional refinements of analyses already performed. Sentences containing verbals (infinitives, present participles, and past participles) pose, perhaps, the most interesting and knotty problems.

A More Sophisticated Analysis

Hemphill's sentence has been met earlier in Chapter II where it was claimed that a proper interpretation was a tetradic one. It is re-quoted below:[1]

$$\underline{\text{The serpent}} \ \underline{\text{tempted}} \ \underline{\text{Eve}} \ \underline{\text{to eat}} \ \underline{\text{the apple}}. \qquad (3.1)$$
$$\begin{array}{ccccc} t_1 & {}_4 R & t_2 & t_3 & t_4 \\ \text{(tempter)} & & \text{(tempted)} & \text{(act)} & \text{(object of act)} \end{array}$$

Now, in terms of the whole sentence, this is a reasonable interpretation. Note that it essentially follows a traditional analysis in that there

is no real subordination implied as there would be in a transformational

analysis, which would be somewhat as follows:

```
                              S
                 NP                      VP
          Det         N           V          NP
           |          |           |           |
          the      serpent     tempted       Eve
                                              |
                                              N
                                              |
                                             Eve
                                              |
                                              S
                                    NP              VP
                                    |           V        NP
                                    N           |      Det    N
                                    |           |       |     |
                                   Eve         eat     the  apple
```
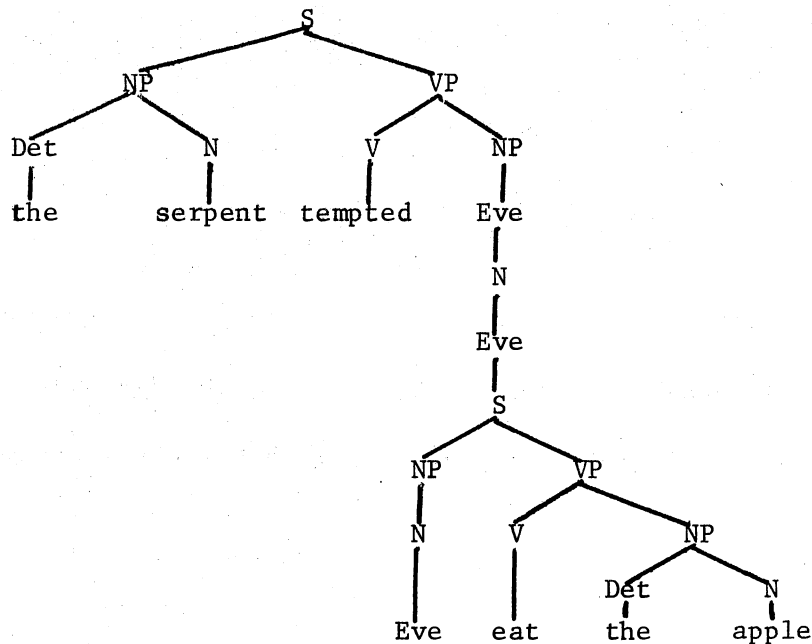
(Problems of tense have been omitted.)

In the above analysis, <u>Eve</u> is doing double duty--direct object in the

main sentence and subject in the "lower," dominated sentence. The

notation indicates, once again, the futility of establishing such

functions as subject and object--at least for every sentence in which

such entities seem to appear. The transformationalist's sense of

"lower" is not at all clear either. It seems to be based on the idea

of "after thought"--i.e., the merging of two S-V-O patterns, the

"adding on" of more information. This is true, but it ignores the

fact that in an oral context <u>The serpent tempted Eve</u> implies (because

of the meaning of <u>tempted</u>) that <u>Eve</u> did something to something (or

someone) else at such and such a place and in such and such a manner,

and so on.

The traditional word-by-word analysis is more accurate here in that it considers this whole sentence as a complete, coherent pattern, in which no subordination occurs—just modification. However, while more revealing than the transformational view, the traditionalist view also is inadequate in some respects. For example, to eat would be called an "objective complement" of the direct object Eve; but it could just as reasonably be called a complement (completer) of tempted, for the act of temptation is, in fact, to eat. One wonders what the traditional analysis would be if into eating had been substituted for to eat. A more logical analysis is (paraphrased) as follows:

$$\underset{(\quad t_1 \qquad {}_2R \qquad t_2)}{\underline{\text{The serpent}} \ \underline{\text{tempted}} \ \underline{\text{Eve}} \ (\text{so that})}$$

$$\tag{3.2}$$

$$\underset{{}_2S \qquad u_2}{(\underline{\text{she}} \ \text{would}) \ \underline{\text{eat}} \ \underline{\text{the apple}}.}$$

This analysis indicates, unlike the transformational approach, that the first clause is being treated as a complex argument specified by the predicate eat; the apple is, likewise, specified by the predicate eat; she is "understood" from the first clause, and, like the connective expression so that. . . would, is deleted by transformation. This analysis, thus, avoids the transformational view of subordination (in some sense); it avoids the traditional views of subject, object, and complement; and it avoids Hemphill's classification of the major predicate relation ("temptation" = to eat) as a term, which is practically the same as calling it an objective complement because of the ordering of the terms. To eat is the main relation, as is seen if the sentence is re-paraphrased to made Eve eat or caused Eve to eat, where made and caused simply denote the motivating force.

The above (3.2) analysis is, in other words, considered to be on a par with the following sentence, where a complex idea is the so-called subject:

$$\underbrace{\underset{(\ \ u_1 \quad u_2 \quad {}_2S\ )}{\text{What you want}}}\ \underset{{}_2R}{\text{can cause}}\ \underset{t_2}{\text{trouble.}} \qquad (3.3)$$

Certainly, no one would say that What you want is a complete sentence semantically, even though it is a sentence pattern; it is, by tradition, subordinate, but not in the same way that the what-clause is in What you want is for me to cause trouble, where both clauses are subordinate traditionally, and neither can stand alone; hence, the whole sentence (two patterns) must be analyzed as one! This is where the concept of distribution proves useful, for by labeling the what-clause in the symbolized sentence above as t_1, one is saying that in this position t_1 is not really a term, but that in relation to the main verb, $_2R$, it is functioning rather like a term--a complex statement which has been reduced to a "single concept" equal to Your desires. . . . (If the reader still likes the subject-object distinction, u_1 and u_2 should occur in each other's positions above, but this change necessitates recognition of the fact that word order is, as has been stated frequently, of little use in determining such functions which are essentially semantic, not syntactic.)

Verbals as Nominatives

The validity of the above interpretation is easily illustrated by comparing verbal usage as substituting for subjects and direct objects.

What I like is <u>to sing</u>. (3.4)

<u>Singing</u> is what I like. (3.5)

In (3.4), the infinitive is, traditionally, a subjective complement (i.e., the infinitive is functioning as a predicate nominative). But what nominative form in the subject does it complement? Surely it cannot be <u>what</u>, for the topical meaning refers not to a thing, but to an action, a continuing process, as is brought out in (3.5), the gerund (as subject) case. If the infinitive (or gerund) modifies <u>I</u>, then it is not modification, paradoxically, by traditional definition. Therefore, it must be the whole clause, <u>What I like</u>, to which <u>to sing</u> (or <u>singing</u>) refers. Both of them simply denote

I like to sing. (3.6)

The complement here, <u>to sing</u>, based on substitutional principles, is said to function as a direct object (= <u>it</u>, <u>what</u>). If verbals are (nearly always) predicates, as is here being maintained, one must isolate the main predicate from any secondary ones in a complex expression. Now, since <u>to sing</u> (or <u>singing</u>) seems to be the main predication, how is one to get over the fact that it seems to be used here as a "noun"? In this case, fortunately, English has a more specific way of indicating the logical connections of the parts in question, as seen below:

What $\underline{I}$ $\underline{like}$ to do $\underline{is\ to\ sing}$. (3.7)
$($ t_1 R $)$ F
           a

<u>Singing</u> is what $\underline{I}$ $\underline{like}$ to do. (3.8)
F $($ t_1 R $)$
                   a

What and to do are unlabeled (to avoid repetitive confusion) because
they both have the same referent! Traditional and structural grammar
have both confused function (subject, subjective complement, and object)
and substitutional positioning with logical function in these cases
because they have tended to ignore the fact that semantics to some
degree also indicates (governs) syntax. In both cases, (3.7-3.8),
above, a is an argument term whose properties are extensions of the
specification given in to sing (or singing). The copula is not a
logical word indicating class inclusion or membership, for the class
of singers is not the intended meaning--just the process of singing.
If one interpreted the whole what-clause as equivalent to to sing,
then a true predicate nominative, traditionally, would seem to be the
pattern into which the sentence was forced; but the clause refers to
what I like to do, not just to what I do.

Entailment

The infinitive or gerund is said in most textbooks to function as
a noun when it is the subject of its sentence, as in

$$\text{To give is to receive.} \qquad (3.9)$$

$$\text{Giving is receiving.} \qquad (3.10)$$

By adding the complication of infinitives and gerunds in the predicates
as well as the subjects, some interesting results ensue. If these
predicates are predicate nominatives, as is usually claimed, in what
sense is there equality? Giving is the opposite of receiving! Surely,
something has been left out that is implied. If the grammarians of
various schools can accept the idea of the "understood" you in

imperative sentences, then why can't they accept the obvious fact that
the "understood" subject in the above "clauses" is the indeterminate
pronoun one (= people = anyone)? That is, the sentences mean something
like the following:

$$\underset{(\quad a \qquad F\ )}{\text{If } \underline{\text{one}} \ \underline{\text{gives}},} \ \text{(then)} \ \underset{(\quad a \qquad\quad G \qquad\ )}{\underline{\text{one}} \ \underline{\text{will receive}}.} \qquad (3.11)$$

The same letter is used for both arguments, since they are identical.
The arrow indicates logical entailment, just as if. . . then does in
ordinary English, though then is often deleted. To give and giving
are therefore true predicates. They result in the above sentences by
transformations applied to the if. . . then sentence. If one wishes
to claim that the entailment sentence has, by means of transformations,
been forced into the so-called predicate nominative patterns cited
(logically, the equality patterns), this would be satisfactory except
that the verbals are not nominatives; they just occur in the same
pattern where nominatives can also occur. Thus, the proper inter-
pretations are

$$\underset{F \quad\longrightarrow\quad G}{\underline{\text{To give}} \ \underline{\text{is}} \ \underline{\text{to receive}}} \qquad (3.12)$$

and

$$\underset{F \quad\longrightarrow\quad G}{\underline{\text{Giving}} \ \underline{\text{is}} \ \underline{\text{receiving}},} \qquad (3.13)$$

where the subject one has been deleted because of its obviousness.
The transformational steps would have to indicate, of course, which
form the verbals would take.

Now that this simple example of entailment has been described, it
is possible to return to an earlier, more complicated example: What

you want can cause trouble. This sentence can be simplified to

$$\text{If } \underline{\text{you}} \ \underline{\text{want}} \ \underline{\text{that}} \ (= \text{what}), \ \underline{\text{it}} \ \underline{\text{can cause}} \ \underline{\text{trouble.}} \qquad (3.14)$$
$$(\ t_1 \quad {}_2S \qquad\qquad t_2 \quad) \rightarrow (t_2 \qquad {}_2R \qquad t_3\ )$$

The result is a complex sentence according to the traditional definition,
where the comma (oral pause juncture) performs, along with $\underline{if}$, the
logical idea of entailment. Again, neither clause makes much sense
without the other; even the so-called independent clause is not really
independent for it is meaningless unless one knows to what $\underline{it}$ refers.
Thus, the entailment sentence, (3.14), has been transformed into the
grammatical form of the S-V-O sentence pattern, What you want can
cause trouble; the original logical notation, however, indicates its
meaning structure more accurately.

The passive infinitive can be treated similarly:

$$\text{To be flattered is not unenjoyable to me} \qquad (3.15)$$

means

$$\text{If } \underline{\text{I}} \ \underline{\text{were (to be) flattered,}} \rightarrow$$
$$(\ t_1 \qquad\qquad R \qquad\qquad\qquad)$$
$$\underbrace{\qquad\qquad\qquad\qquad\qquad}_{u_1} \qquad\qquad (3.16)$$

$$\underline{\text{it}} \ \underline{\text{would not be unenjoyable}} \ \underline{\text{to me.}}$$
$$-(u_1 \qquad\qquad {}_2S \qquad\qquad t_1\ )$$

In (3.16), $\underline{it}$ refers to the whole $\underline{if}$-clause concept, hence the repeti-
tional use of u_1; likewise, $\underline{I}$ and $\underline{\text{to me}}$ have the same referent. The
double negative form can be further simplified to the active form of

$$\text{If } \underline{\text{I}} \ \underline{\text{were (to be) flattered,}} \qquad \underline{\text{I}} \ \underline{\text{would enjoy}} \ \underline{\text{it.}} \qquad (3.17)$$
$$(\ t_1 \qquad\qquad R \qquad\qquad) \rightarrow (t_1 \qquad S \qquad u_1)$$
$$\underbrace{\qquad\qquad\qquad\qquad}_{u_1}$$

Because of the repetition of referents, the notation is troublesome, but it is at least perspicuous. A simpler (but too drastically paraphrased, perhaps) interpretation might be

$$\text{If } \underset{\text{(a}}{\underline{I}} \; \underset{F}{\underline{\text{were (to be) flattered,}}} \; \text{)} \longrightarrow \underset{\text{(b}}{\underline{I}} \; \underset{G}{\underline{\text{would be happy}}} \text{)} . \qquad (3.18)$$

where a=b would have to be shown in some way. This is mathematically neater, but it is possible to keep <u>a</u> in the last clause, if desired. Troublesome though the notation is, it illustrates the fact that the two clauses are inseparable both semantically and syntactically. In traditional terms, one would have to say that the indirect object <u>to me</u> has become the subject in the independent clause of the second complex sentence. The independent clause, however, is not so independent, for <u>it</u> makes no sense unless one allows that it is a substitution instance of the direct object, which is the whole dependent clause. That is, <u>it</u> equals <u>I were to be flattered</u> in <u>If I were (to be) flattered, it would not be unenjoyable to me.</u>

Predicate adjective sentences with so-called verbal subjects can also be treated similarly:

$$\text{To look at the sick (people) makes me ill.} \qquad (3.19)$$
$$\text{Looking at the sick (people) makes me ill.} \qquad (3.20)$$

The logical form of both sentences is:

$$\text{If } \underset{(t_1}{\underline{I}} \; \underset{2^R}{\underline{\text{look at}}} \; \underset{t_2}{\underline{\text{the sick,}}} \; \text{)} \longrightarrow \underset{(t_1}{\underline{I}} \; \underset{S}{\underline{\text{become ill}}} \text{)} . \qquad (3.21)$$

This sentence could also be re-written, perhaps, as <u>When I look at the sick, I become ill</u>, for <u>when</u> carries little or no sense of time here;

many would use the _if_ or _when_ formulations equivalently in this sentence.

Adverbs added to so-called verbal subjects or complements cause no trouble, as seen below:

$$\text{It is fun to play happily.} \qquad (3.22)$$

$$\text{To play happily is fun.} \qquad (3.23)$$

Both (3.22) and (3.23) are examples of transformations of

$$\text{If } \underset{t_1}{\underline{one}} \ \underset{R^1}{\underline{plays}} \ \underset{R^2}{\underline{happily}}, \ \longrightarrow \ (\underset{t_1}{one} \ \underset{S}{\underline{has \ fun}}. \qquad (3.24)$$

Note that _has_ does not indicate possession; it functions like _to be_, indicating tense, person, and number only. The true predicate is the adjective _fun_, which basically carries the idea of _enjoys_ (oneself). When (3.22) and (3.23) are compared to (3.24), it becomes evident that the traditional distinction between simple modified statements and complex sentences is not at all clear. (This latter topic will be discussed more fully in the next chapter.

Infinitives as Modifiers

The traditional idea that infinitives may modify predicate adjectives is also misconceived.[2]

$$\text{Larry was } \underline{\text{anxious to leave}}. \qquad (3.25)$$

This sentence is actually a reduction of a two-clause sentence, for the meaning is obviously not _anxiously left_, nor is it _left anxiously_. It means _Larry anxiously wanted to leave_, which is itself a reduction of

$$\underline{\text{Larry}} \ \underline{\text{was}} \ \underline{\text{anxious}} \ \text{that} \ \underline{\text{he}} \ \underline{\text{(himself)}} \ \underline{\text{might}} \ \underline{\text{leave}}. \qquad (3.26)$$
$$(\quad a \qquad F \quad) \quad (\quad a \qquad\qquad G \qquad)$$

This subjunctive form may sound a bit strange simply because it is not

much used anymore, but it does show that the original intention was to

treat to leave as a true verb. That is usually classified as a meaning-

less connective functioning rather like the logical word and, as in

Larry was anxious and (as a result) he wanted to leave. The word that,

however, could be interpreted as an anticipatory direct object.

Structural grammarians and some transformationalists would categorize

the that-clause as a substitution instance of the direct object; this

analysis is based on the old, now non-standard form, Larry was anxious

for to leave, which is equivalent semantically to Larry desired to

leave (= Larry desired it). Logically, this would require only a

manipulation of the parentheses. It will be recalled that outer

(sentence boundary) parentheses are always implied; in this inter-

pretation, the outer parentheses are useful because the first phrase

is not being considered as a clause, but part of the total sentence,

and hence is not itself enclosed in parentheses:

$$\underline{\text{Larry}} \ \underline{\text{was}} \ \underline{\text{anxious}} \quad \text{that} \quad \underline{\text{he}} \ \underline{\text{might}} \ \underline{\text{leave}}. \qquad (3.27)$$
$$[\quad a \qquad F \qquad\qquad (\ a \qquad G \qquad)]$$

$$\text{(subject)(predicate)} \qquad \text{(direct object)}$$
$$\text{(= Larry} \qquad \text{desired} \qquad\qquad \text{it)}$$

Linking verbs sometimes require more elaborate paraphrasing. For

example, in a sentence such as Henry appears to be improving, the pas-

ive infinitive is not a subject complement (i.e., a predicate adjective)

as Conlin declares.[3] The meaning is something like Henry appears to

me to be improving. That is, the subject of appears is not Henry;

it is "understood" to be someone else. Therefore, the sentence may
be analyzed somewhat as follows (supplying the lost subject):

$$\underline{\text{I}} \underline{\text{ think (=believe)}} \text{ (that) } \underline{\text{Henry}} \underline{\text{ is improving}}. \qquad (3.28)$$
$$(\text{a} \qquad \text{F} \qquad) \qquad (\quad \text{b} \qquad \text{G} \qquad)$$

Again, if one interprets the Henry-clause as a direct object--i.e., I
think it--then the parentheses can be manipulated as above in (3.27).

Likewise, the sentence Mother seems to know means something like
I think Mother knows, contrary to the traditional (Conlin's) view.[4] It
may be viewed as two "conjoined" propositions or, more logically, as
one complex proposition. The latter would require the bracketed
formulation as in (3.27); the "conjoined" formulation would require
that the two clauses be enclosed in separate sets of parentheses.

Infinitives as Predicate Nouns

Conlin also calls the infinitive in John was to go, but he became
ill a subjective complement (subclass: predicate noun).[5] This is
certainly nonsense because there is no sense of equivalence existing
between John and to go; the analysis is based on the structural idea
that to go occurs in a position where a noun could occur; but any
part of speech can occur in the third slot of a simple sentence pattern!
The meaning of was to is an indication that something was planned for
the future at some time in the past, for the paraphrase John planned
to go. . . . leaves the identical meaning intact. The subjunctive
form of the sentence reveals its true logical structure:

$$\text{The plan was that John go, but he became ill;} \qquad (3.29)$$

or

$$
\underset{\underset{t_1}{\big\downarrow}}{\text{John's plan}} \quad \underset{(\quad\quad\quad t_2\,_2{}^R)}{\text{was that he go,}} \quad \underset{\&\;(t_2\quad\quad S\quad)}{\text{but he became ill.}} \quad (3.30)
$$

$$
\underbrace{\phantom{\text{was that he go}}}_{=t_1}
$$

While <u>but</u> is semantically contrastive, it still represents a type of conjunction. Again, the word <u>that</u> could be an anticipatory object equalling everything that follows it in the clause   The t_1 beneath the <u>that</u>-clause indicates that the complex meaning is simply another way of stating the contents of <u>plan</u>; if one wishes to make more perspicuous the fact that the structure is different than that covered by the first instance of t_1, another logical term symbol can, of course, be used, but it is unnecessary since $(t_2\;_2{}^R)$ covers the desired structural facts. This analysis illustrates that the traditionalist is on the right track but is confused because of his word-by-word approach. In the traditional sense, <u>to go</u> does complement the subject, but the subject is an idea corresponding to <u>John's plan</u> (with the emphasis on <u>plan</u>); and <u>to go</u> by itself is not the complement--it is the entire <u>that</u>-clause of the subjunctive form, which has been reduced to <u>was to go</u> by deletion transformation (of <u>that he</u>) and insertion transformation of the meaningless <u>to</u>. Now, <u>was</u> performs its usual tasks of indicating tense, number, and person; it carries no concept of futurity, for futurity is indicated in the noun <u>plan</u>. Of course, the logician would not call this a predicate nominative clause (he would not insert the second t_1), for to him there is not, strictly speaking, an equality relationship between <u>John's plan</u> and the act of his going. This is a problem of conceptual interpretation which is hard to decide in any conclusive way.

Infinitives as Objects of Infinitives

Sometimes one infinitive is said to be the object of another,[6]

as in

$$\text{She has the right } \underline{\text{to order}} \text{ her children } \underline{\text{to work}}, \qquad (3.31)$$

which can be reduced to

$$\underline{\text{She}} \; \underline{\text{can demand}} \text{ that } \underline{\text{her children}} \; \underline{\text{work}}. \qquad (3.32)$$
$$(\; \text{a} \qquad \text{F} \quad) \qquad (\qquad \text{b} \qquad \text{G} \;)$$

This proposal illustrates that <u>work</u> tells what the children should do;

it has no connection with <u>order</u> or <u>demand</u> unless one wishes to inter-

pret the whole <u>that</u>-clause as a complex notion functioning as a direct

object of <u>demand</u>, which is, of course, possible. Even in the original

sentence one could reasonably say, traidtionally, that <u>her children</u>

is the direct object of <u>to order</u> and the subject of <u>to work</u>. Since

this is so, the logical analysis seems more reasonable even though

some might object to a change of verbs. The issue, in any case, is

the relationship of the two infinitives. Keeping to the original

sentence, (3.31), one could say that the whole complex idea contained

in <u>to order her children to work</u> is a second direct object in apposition

to <u>the right</u>, and , comparing (3.31) to (3.32), <u>that</u> would be equal to

<u>the right</u>, producing a **relational** form. This traditional view could be

re-written as

$$\underline{\text{She}} \; \underline{\text{has}} \; \underline{\text{the right}}: \quad \underline{\text{to order her children to work}}. \qquad (3.33)$$
$$t_1 \quad {}_2 R \qquad t_2 \qquad\qquad\qquad t_2$$
$$\text{(Internal structure is ignored.)}$$

Logically, however, there are many kinds of rights, and ordering

children is only one of them. Yet, the definite article in the right

would seem to refer to the one and only right, if taken literally.

Since this is not the intention, it must mean the ordering of children

selected from those rights which exist. Hence, the last analysis

lacks explanatory power, whereas the first analysis avoids these

problems and states the proposition completely and correctly.

Such an analysis as the above is comparable to sentences such as

$$\underset{t_1}{\text{They}} \; \underset{2^R}{\text{elected}} \; \underset{t_2}{\text{him}} \; \text{(to be the)} \; \underset{t_2}{\text{President}}, \qquad (3.34)$$

which are usually analyzed as indicated (one direct object used in

apposition to another). Even here, however, a more refined analysis

seems in order, as indicated by the parenthesized words, for electing

him is not exactly the same thing as becoming President. Thus, a more

precise analysis would be something like

$$\underset{t_1}{\text{They}} \; \underset{2^R}{\text{elected}} \; \underset{t_2}{\text{him}} \; \text{(so)} \; \text{that} \; \underset{t_2}{\text{he}} \; \underset{\in}{\text{might become}} \; \underset{P}{\text{President}}. \qquad (3.35)$$

This formulation points out the fact that there have been many Presi-

dents (P), of which he is only one member of that class of people.

This distinction is better brought out if the sentence is re-paraphrased

to They elected him to the (office of) Presidency. That is, a Presi-

dent is, in a sense, not a person at all, but an office (holder) whose

duties are assigned to a man to carry out. A similar situation is the

idea of a corporation being legally an entity which may be involved in

court proceedings. If the corporation is ordered to pay damages to the

claimant, this fact does not imply that the members who make up the

corporation must dig into their own bank accounts. The corporation has

its own, separate bank account. Thus, <u>him</u> and <u>President</u> in the original, shorter sentence do not refer to the same thing, and assigning t_2 to both words is a misconceived maneuver.

Subjects of Infinitives

In a sentence such as <u>I want you to go</u>, it is usually said that the infinitive has a subject; the subject of the infinitive is said also to be the object of the preceding clause. Now, the subjunctive form, once again, illustrates that this is nonsense if one does not want to violate the definitions assigned to the terms "subject" and "object" (doer and receiver of action, respectively). <u>You</u> is not an object of <u>want</u>; the clause does not mean that <u>I want you (I want to own you)</u>. <u>You</u> is the subject of <u>to go</u>, as a transformationalist would insist, but his analysis is also plagued with problems. Some transformationalists would schematize the sentence thus:
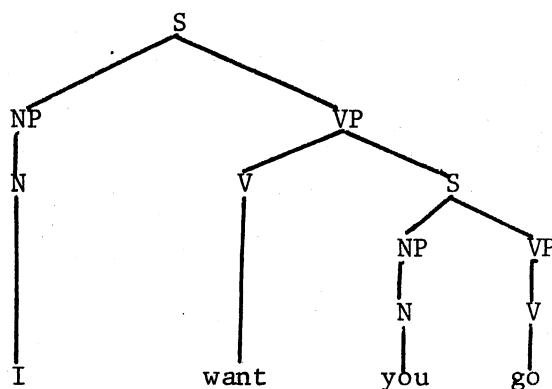
The labeling obscures the fact, nevertheless, that the second S may be an NP in disguise, for the S is dominated by VP, which, in turn, is dominated by the first S. In fact, other transformationalists would label the predicate in this way:
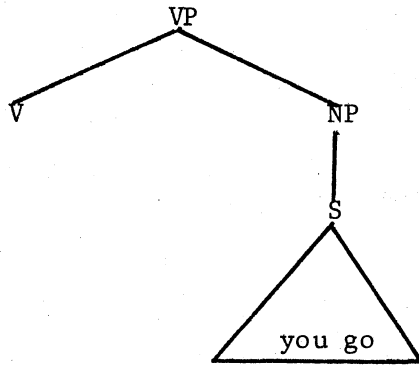
The latter analysis, then, actually agrees essentially with the traditional view. The structural grammarian, by substitution, would likewise say that the sentence means I want it, where it means you go but where it also means you in particular. That is, a noun or pronoun may be substituted in object position and it may perform the object function of receiving the action of the verb want; the sentence "makes sense." If one insists on talking in such terms, then the direct object is the whole complex notion of you go, for that is what is wanted, not just you, as explained above. The first transformational diagram (but not the second) has the virtue, at least, of treating the second S in its entirety as a direct object, while the traditional analysis more or less accords with the structuralist viewpoint and the viewpoint indicated in the second transformational diagram. Note should be taken, however, that there is no overwhelming reason, in the first diagram, to interpret the second S as an object at all! That is why it is labeled S, and not an NP converted to an S as in the second diagram. The fact that the first S dominates the whole predicate does not disturb anything either, for domination simply means that a verb like want semantically requires something to follow—it cannot stand alone; in this case, a proposition follows. Hence, this

is a case of a logically complex sentence because the first clause

depends upon the second clause for its sense (whereas in grammar it

is said that the reverse is true):

$$\underline{\text{I}} \; \underline{\text{desire}} \; \text{that} \; \underline{\text{you}} \; \underline{\text{go}}. \qquad\qquad (3.36)$$
$$[(a \quad . \; F \;) \qquad (\; b \quad G)]$$

The subjunctive formulation once again proves that the subject of the

second clause is not an object of the first clause. (The word that,

which is optional, could, as noted earlier be conceived as an antici-

patory object in the first clause: i.e., that = you go.) The notation

indicates only that there are two propositions, the first specifying

the need of a second. The outer brackets, while superfluous, make the

necessary "conjoining" more perspicuous; the words that and to perform

this service in the two versions cited. Of course, mere juxtaposition

can be used to denote the "conjoining":

$$\underline{\text{I}} \; \underline{\text{desire}} \; \underline{\text{you}} \; \underline{\text{go}} \; \text{(=leave)}. \qquad\qquad (3.37$$
$$(a \quad F \quad)(\; b \qquad G \qquad)$$

Leave is inserted parenthetically because it is stylistically preferable

in everyday English to go in the subjunctive mode of expression. One

can say I desire that you go, but for some unknown reason one cannot

say I want that you go; the latter sentence would be thought of as

semantically deviant, even though it means the same thing as the first

sentence and is just as grammatical (mechanically). Desire seems only

to carry a "softer tone," while want sounds more demanding. These

ideas concerning grammaticality and tone support the view of Chomsky

and Frege mentioned in Chapter I.

The various subjunctive forms that have lately been cited delete
the to from the infinitive forms (and retain the uninflected third
person), which further supports the view of one sentence being trans-
formed from another. The to may also be deleted and the third person
remain uninflected in some non-subjunctive instances, as in

$$\underline{\text{We}} \ \underline{\text{watched}} \ \underline{\text{Mary}} \ \underline{\text{cry}}. \qquad (3.38)$$
$$(\text{a} \qquad \text{F} \ ) \ (\ \text{b} \qquad \text{G})$$

It is instructive to note that cry is ambiguous; it may match watched
in that simple, definite past time is intended, namely We watched while
(or and) Mary cried. On the other hand, progressive aspect may be
intended: We watched Mary crying, where was has been deleted. This
usage contrasts with many cases cited earlier in this section where
gerunds functioned exactly like infinitives--e.g., I like to swim /
I like swimming--both were true predicates when logically explicated,
and no alteration of tense or aspect occurred. The implication in the
to-less sentences such as We watched Mary cry seems to be that deletion
of the to signals the fact that the infinitive may be interpreted in
the progressive aspect.

Causation

As usual, it is the meaning of the first verb which gives a clue
as to what is possible. In Helen made Paul leave, only definite past
is possible; made governs the choice. The sentence is equivalent to
Helen caused Paul to leave, where to reappears. There is no subjunctive
form in this case that adheres more or less to the same wording. There-
fore, the only conclusion that one can logically reach is that made
and caused are functioning as quasi-auxiliary verbs and that leave and

to leave are not infinitives.[7] That is, the logical interpretations

are identical:

$$\underline{\text{Helen }\underline{\text{caused}}...\underline{\text{Paul}}...\underline{\text{to leave}}.} \qquad (3.39)$$
$$t_1 \qquad\qquad t_2 \qquad 2^R$$

$$\underline{\text{Helen }\underline{\text{made}}...\underline{\text{Paul}}...\underline{\text{leave}}.} \qquad (3.40)$$
$$t_1 \qquad\qquad t_2 \qquad 2^R$$

The ellipses indicate that the auziliaries are discontinuously consti-

tuent with the main verbs; the Aux + Verb constructions are caused +

to leave and made + leave. In other words, to leave is either not an

infinitive or it is still the main verb of the second "clause," not an

objective complement. The point can, perhaps, be made clearer by citing

cases where the so-called objective complement is an adjective, not a

verb:

$$\text{He }\underline{\text{made}}...\text{the house}...\underline{\text{white}}. \qquad (3.41)$$

$$\text{He }\underline{\text{painted}}...\text{the house}...\underline{\text{white}}. \qquad (3.42)$$

There is no hint of an infinitive in either of the above cases, yet the

structures resemble those in (3.39 and (3.40). The underlined areas

indicate the Aux+"Verb" structures. There is no meaning in made

except causation; the true predicate is therefore white. Since (3.42)

is equivalent to (3.41), the true predicate is still white. White,

thus, cannot be an objective complement, as traditionalists would

insist.[8] Painted does give the more specific added meaning of how the

house was made white, so it must be part of the predicate white; hence,

it is a quasi-auxiliary. Though strange in this usage, English does,

fortunately, have a verb form for white. The sentence, then, is analyzed

as

$$\underline{\text{He}} \ \underline{\text{whitened}} \ \underline{\text{the house}}. \qquad\qquad (3.43)$$
$$t_1 \qquad 2^R \qquad\quad t_2$$

The above analysis is supported by a similar so-called adjective

formation:

$$\underline{\text{The remark}} \ \underline{\text{made}}...\underline{\text{me}}...\underline{\text{angry}}. \qquad (3.44)$$
$$t_1 \qquad\qquad\qquad t_2 \qquad 2^R$$

$$\underline{\text{The remark}} \ \underline{\text{angered}} \ \underline{\text{me}} \qquad\qquad (3.45)$$
$$t_1 \qquad\quad 2^R \quad t_2$$

Therefore, <u>made white</u> and <u>made angry</u> are on par with <u>made leave</u>. The

latter is no more an infinitive than the former two are.

Anticipation

Just as <u>to be</u> + infinitive implies anticipated future action from

a past or present viewpoint, so does the for...to + verb construction,

only the subject does not come necessarily from the first "clause."

The following pair illustrate this point:

$$\text{You} \ \underline{\text{are to see}} \ \text{the boss.} \qquad\qquad (3.46)$$

$$\text{The man} \ \underline{\text{for}} \ \text{you} \ \underline{\text{to see}} \ \text{is the boss.} \qquad (3.47)$$

In (3.46), <u>you</u> is "understood" to be the subject of the infinitive.

It is apparently a reduced form of (3.47), or (3.47) is an expanded

version of (3.46)--for there is a redundancy in the introduction of a

predicate nominative. However, (3.47) is misleading logically, for

<u>The man</u> is not the true subject, as most traditionalists would declare;

they would say that the <u>for...to</u> expression is equivalent to <u>whom you</u>

<u>should see</u>.[9] Others would say that the subject of the infinitive is the

object of the preposition <u>for</u>, which really is almost a meaningless

statement.[10] Still others ignore the problem entirely by citing

sentences in which the optional for has been carefully deleted--e.g.,

He wanted (for) her to become a dancer; here, her is simply said to

be the object of wanted and the subject of to become.[11] (Sentences

where for may not be deleted are usually ignored.) No one seems to see

that you is the subject in sentences such as (3.47) cited above, in

spite of its obvious similarity to (3.46):

$$\underset{t_1}{\underline{\text{You}}} \; \underset{2^R}{\underline{\text{are to (= should)}}} \; \text{see} \; \underset{t_2}{\underline{\text{the boss}}}. \qquad (3.48)$$

American slang, interestingly enough, does recognize the resemblance:

$$\underset{t_1}{\underline{\text{You}}} \; \underset{2^R}{\underline{\text{are to (= should)}}} \; \underline{\text{see}} \; \underset{t_2}{\underline{\text{the boss-man}}}. \qquad (3.49)$$

Such sentences are sometimes reduced to elliptical expressions where

the subject must be supplied by the hearer (or writer), as, for example,

in

$$\text{The man to see is the boss.} \qquad (3.50)$$

Such formulations, however, are said to be cases of deletion of for and

the subject of the infinitive.[12] This sentence is merely a transforma-

tional reduction of elements from You are to (= should) see the boss-man

analyzed above. You is the one and only subject. More precisely, there

is a relation of the necessity of seeing being established between you

and the boss (= the man).

Problems of Mood and Voice

The above cases also illustrate that the distinction between indica-

tive and subjunctive moods is blurred: are to + verb = indicative and

should + verb = subjunctive. Are to is mandative; should implies advisability. The distinction between active and passive is even more unclear. All these problems are illustrated below:

The litigation to be carried out (by you) is treacherous. (3.51)
The litigation (which) you should carry out is treacherous. (3.52)
The litigation (for you) to carry out is treacherous. (3.53)
The litigation (which) you will carry out is treacherous. (3.54)

Logic cannot solve these grammatical dilemmas, but the relations are fairly easy to formalize, for they accord with (3.49):

$$\underline{\text{You}} \; \underline{\text{are to (=should)} \; \text{carry out}} \; \text{this} \; \underline{\text{treacherous}} \; \underline{\text{litigation.}} \quad (3.55)$$
$$t_1 \qquad\qquad 2^R \qquad\qquad\qquad (\qquad F \qquad\qquad a$$
$$t_2 \; (=\text{"it"})$$

The direct object (t_2) is itself a proposition--This litigation is treacherous--which accounts for the complex notation.

Apposition

Infinitive apposition is easily handled in view of earlier insights discussed in this section. The following passive sentence

The plea to become President was pleasing (to Kennedy) (3.56)

can be converted to the active voice, becoming

The plea to become President pleased Kennedy, (3.57)

which subjunctively, transforms to

The plea that he become President pleased Kennedy. (3.58)

To avoid notational pitfalls, (3.58) can be further changed to read

$$\underline{\text{The plea}}\ \underline{\text{pleased}}\ \underline{\text{Kennedy}},\ \text{that}\ \underline{\text{he}}\ \underline{\text{become President}}.\qquad (3.59)$$

$$\text{t}_1\qquad {}_2\text{R}\qquad \text{t}_2\qquad (\quad \text{t}_2\qquad \text{S}\qquad)$$

$$\underbrace{}_{\text{t}_3}$$

No equality (apposition) is shown between t_1 and t_3 because the $\underline{\text{that-}}$ clause merely extends the meaning of $\underline{\text{plea}}$ (explains what this particular plea was about), but a plea (by definition) is not the act of becoming President; a plea is a request, but becoming President is an action (a predicate function which specifies the nature of the plea). All t_3 indicates is that the whole unit can be shifted about as a single complex idea: $\underline{\text{That he become President was a plea that pleased Kennedy}}$ or $\underline{\text{The plea that he become President pleased Kennedy}}$. The parentheses could serve alone to show that t_3 distributes as a unit, but the redundant notation, perhaps, increases clarification.

Infinitive and Gerundive Usage Contrasted

Conlin claims that "the infinitive is unique in its function as the verb part of an infinitive phrase which has a subject,"[13] of which several examples have already been noted, among which were some questionable cases. The fact that Conlin is wrong in some instances would be trivial if it were not for the fact that it points up the inconsistency of traditional analyses based on paradoxical methods of interpretation. Conlin's work, which has been often cited, is an excellent example of a very complete college handbook in which the best insights of both traditional and structural grammar have been skillfully merged, if one discounts a few natural lapses. One such lapse is his remark that "the gerund may have a verb function in a word group by having a subject."[14] (Comparison of this quotation with the one immediately above should be

kept in mind in what follows.) Early in this section infinitives and gerund sentences were given in pairs to show their essential identity logically and grammatically; the only difference, of course, between the two is inflection (<u>to</u> + simple verb vs. verb + <u>-ing</u>). Two such cases that establish Conlin's misjudgment are:

$$\text{Bill taught } \underline{\text{Jane to bowl}}. \tag{3.60}$$

$$\text{Bill taught } \underline{\text{Jane bowling}} \tag{3.61}$$

Now, it was demonstrated that by converting such a proposition as that above to its subjunctive form one could see that both verbal forms are not objective complements; they are true verb (predicate) functions. If one still sees some validity in the traditional view, one could indeed repeat the feminine noun (or pronoun) to indicate its dual usage as subject and object, and this was, in fact, done several times in the following manner:

$$\text{Bill taught } \underline{\text{Jane}} \text{ (so) that } \underline{\text{she}} \text{ might bowl.} \tag{3.62}$$

But it is just as logical (perhaps more so) to interpret the sentence thus:

$$\underline{\text{Bill}} \;\; \underline{\text{taught}} \text{ (so) that } \underline{\text{Jane}} \;\; \underline{\text{might bowl}}. \tag{3.63}$$
$$(\; a \quad\;\; F \;\;) \longrightarrow (\quad b \qquad G \quad)$$

<u>Jane</u> (or feminine pronoun) is deleted in the first "clause" because Bill's teaching need not refer to <u>whom</u> he taught, but <u>what</u> he taught (i.e., the sport is implied because it occurs in the function <u>G</u>). One may have misgivings about using the logical symbol for entailment, and, indeed, one could devise another symbol to convey this type of

consequence. The motivation for using the arrow (besides the desire
to keep the symbolism to a minimum) is the following paraphrase which
may be a bit too "rough" for some:

Since Bill was teaching (her) the sport, Jane could learn it. (3.64)

This paraphrase seems close to an if...then type of sentence. The
problem is that implication can be expressed in so many ways in a
natural language such as English. In any case, some logical symbolism
is needed to express (so) that, (in order) that, etc., for the two
"clauses" as separate propositions mean different things than when they
are combined. Here, again, is another excellent example which illus-
trates Frege's contention that propositional content cannot be
determined by just examining word meanings, nor can it be determined by
just examining "complete sentences," as grammarians are wont to call
such sentences as Bill taught and Jane might bowl (both S-V-types).
Neither can the whole sentence be construed as a kind of conjunction
of these two propositions, for the basic meaning of the whole is dif-
ferent than that of its two major parts. Hence, some kind of
implication is meant. The complete sentence does not represent a mere
concatenation of two other, separate, "complete" thoughts; it represents
a still different thought unto itself. In composing such a sentence,
one is operating on two separate levels, though the two levels obviously
connect or overlap somewhere. One level is the level of complex thought
sketched above; the other level is that of forcing the complex thought
into one or more ready-made (so to speak) syntactic patterns known to
the speaker or writer. It is like having a finite quantity of clay;
the artist may mold and remold the clay over and over again into an

infinite quantity and type of object, but he is restricted to the infi-

nite possibilities of the clay itself, for he has no access to additional

materials which may be combined with the clay. There are levels of

infinities, in other words! The clay represents the sentence pattern--

pattern one from which all the other sentence patterns are extensions.

The infinite variety of forms which the clay may take represents human

thought. But human thought, paradoxically, may be contained in (or

stem from) a higher-order of infinity--e.g., Divine Thought, as some

say. If a higher-order of infinity is not posited, then how is one to

account for the limited sentence patterns (the clay)? Mathematicians

who know of Cantor's laws on the infinite can perhaps appreciate this

exposition better than most people.

What the above discussion is getting at is the need in grammar for

a unified approach--if not the one being attempted in this work, then

some other. But the _ad hoc_ interpretations that have been noted in

grammatical analysis must be recognized and stopped, if any progress

is to be made in syntactic analysis. Conlin's lapses, to which reference

has been made, were made in the space of five pages! (And his views

are the conventional ones.) Some twenty-five pages earlier in his book,

Conlin lapses again where he is dealing with a different topic (agree-

ment). It, like the first two lapses, can be found in almost any

standard schoolroom grammar. No wonder many of the brighter children

avoid the study of grammar as they would the plague! Specifically,

this lapse deals with possessive pronoun usage with gerunds. Now,

gerunds will be taken up in the next section; the purpose here is again

to contrast infinitives and gerunds. In a test exercise for students,

Conlin offers the following pronouns in the sentence

$$I \text{ do not like (you, your) running aroud. . . .}[15] \qquad (3.65)$$

The proper pronoun choice is said to be <u>your</u>. This selection is based
on the idea that <u>running</u> is a direct object, and <u>your</u> is its possessive
modifier. A very widely used college handbook by James McCrimmon,
agreeing with Conlin, says that "pronouns take the possessive case when
they precede and modify a gerund."[16] McCrimmon's definition is cited
because Conlin, as do many textbook writers, never really explains the
rationale for his choice; he presents it as a tacit rule. In fact,
neither of these two writers gives a reason for the rule. Some analysts
classify possessive use as formal style and objective case use as
common or informal style, however.[17]

A rule should have a logical basis which accords with the grammar.
If this assumption is true, what sense does it make to analyze the
following two sentences differently?

$$I \text{ don't like } \underline{\text{him to smoke}} \text{ cigars.} \qquad (3.66)$$

$$I \text{ don't like } \underline{\text{his smoking}} \text{ cigars.} \qquad (3.67)$$

The fact that nearly every school handbook has exercises like Conlin's
which require that one choose <u>his</u>, not <u>him</u>, in the gerundive example
(but not in the infinitive example) does not make the choice correct.
It does show, however, that a great many people see things differently
than the school grammarians! Are the laymen necessarily less logical
than the specialists? They are, after all, native speakers too. Both
(3.66) and (3.67) are almost identical word-for-word, grammatically and
semantically. Why is (3.66) said to contain a pronoun subject of an
infinitive and (3.64) a verbal noun object modified by the same third
person pronoun in its possessive form? Since the present writer is a

a native speaker and a specialist and one who sees absolutely no dif-
ference in meaning between these two sentences, he would interpret both
to be logically identical, as follows:

$$-\Big[t_1 \quad \underline{\text{I don't like}} \atop 2^R \quad \underbrace{(u_1 \quad \underline{\text{him (= his)}} \quad \underline{\text{to smoke (= smoking)}} \quad \underline{\text{cigars}}. \atop 2^S \qquad u^2{}_2)}_{t_2}\Big] \qquad (3.68)$$

This notation agrees with the traditional idea that the him-clause is
distributionally functioning as a unit, i.e., as a kind of direct
object. Him (objective case) is selected as the proper grammatical
pronoun because, apparently, most people including grammarians, think
that him is an object of like. The notation does not indicate this
because the writer thinks it is logically incorrect. A more logically
correct form, it is believed, would be

$$-\Big[t_1 \quad \underline{\text{I don't like}} \atop 2^R \quad \underline{\text{the fact}} \atop t_2 \quad \text{that} \quad \underbrace{(u_1 \quad \underline{\text{he smokes cigars}}. \atop 2^S \qquad u_2)}_{"t_2"}\Big] \qquad (3.69)$$

No true apposition (equality) is shown between t_2 and "t_2" for the same
reasons given in an earlier example; however, distributionally "t_2" is
usually treated as simply a more complete explanation of t_2. This
example illustrates the fact that native speakers, including grammarians,
treat the masculine pronoun as a true subject of the verb smokes, but
they do not think of it as an object of like; if one equates the whole
clause ("t_2") with the direct object, the fact (t_2), that is not the
same thing as equating a part of the clause (him) with t_2.

Infinitives as Adverbs

It has been demonstrated, so far, that infinitives perform the
verb function in sentences where traditionalists would define the
infinitive function variously as subjective complement (both predicate
"noun" and predicate "adjective"), subject, direct object, objective
complement, object of preposition, predicate adjective modifier (ad-
verbial), and certain undefined sorts of complements. As if this were
not bewildering enough, traditionalists also claim that an infinitive
can function adverbially as a verb modifier. They cite examples such as
as

He <u>has gone to hunt</u>,   (3.70)

where <u>to hunt</u> is said to be an adverbial modifier (not a predicate
complement) of the verb <u>gone</u>. This classification is, apparently,
based on definition and substitution: (1) a word which modifies a verb
is an adverb; and (2) adverbials such as <u>quickly</u> or <u>north</u> (locative)
could replace <u>to hunt</u>.[18] Structuralists are a bit cagey. They do not
say such an expression as <u>to hunt</u> is an adverb; they say, rather, that
it is in the adverbial position. But this thinly-veiled hint of
adverbial usage is not enough, for an object may also follow the verb
in third position. So the structuralist sets up a rule: If in an
expression of the form $V + to + V$ a pronoun such as <u>it</u> or <u>that</u> can be
meaningfully substituted for the infinitive, then the infinitive is
located where nominals occur and is probably functioning as a nominal;
if, on the other hand, <u>in order to</u> can replace the <u>to</u>, the infinitive
is occupying the adverbial position and is probably functioning
adverbially.[19] If defining, even partially, by position is a valid
procedure, the aforesaid definition certainly is not a good example of

its efficacy! Third position is third position, no matter what fills

it. Substitution seems, in fact, to be the key to the answer, and

is basically the traditional approach--so nothing has been gained at

all. The fact is that a priori reasoning has been used in both the

traditional and structural analyses. Mere juxtapositioning of verb +

infinitive has suggested one possibility, "adverbialhood." This

being accepted, the next step is to substitute an adverbial expression

for the infinitive; if the sentence makes sense, then the infinitive

is functioning adverbially. But one may substitute (paraphrase) other

things, based on the propositional meaning of the whole sentence. If

this is done, the result is similar to many that have been noted

previously:

$$\left[\underline{\text{He has gone}} \text{ (so that } \underline{\text{he might}}) \underline{\text{hunt.}} \atop \text{(a} \quad F \text{)} \qquad (\hat{\text{a}} \quad G \quad) \right] \qquad (3.71)$$

The circumflexed a in the second clause above is actually "understood,"

not overt. The brackets have been inserted to stress the fact of the

unity of the two clauses in combination, for to say that He has gone

implies (in this context) some reason for going; i.e., the first

clause is not truly independent. He is the subject of the second

clause just as it is in the sentence I want him to go. The tradition-

alist rejects the former analysis, but accepts the latter (with the

proviso that he must be converted to him to signal its additional

function of direct object of want). This capricious analytical be-

havior is caused by the traditionalist's word-by-word approach and his

a priori thinking. A similar fallacious method beclouds the struc-

turalist's vision. Even the transformational school, in spite of some

advances made in this area, still comes up with garbled interpretations,

as was shown early in this section. The stumbling block for all three
schools of thought is their reluctance to give up subject-predicate
thinking in favor of a more flexible method, such as the logic of
relations.

Gerund Phrases and Clauses

Definition and Function

Gerunds are defined as -ing verbals that function as nouns. As
with the case of infinitive expressions, this traditional definition
leaves a lot to be desired. Nouns (and therefore gerunds) are said to
function in the following capacities: subject, direct object,
subjective complement, appositive, and prepositional complement. Each
of these functions will be covered in this section.

Gerunds as Nominatives

Many homely sayings use the gerund as a subject and as a subjective
complement (predicate noun) in the same expression. So, these two
functions may be conveniently combined into one exposition. A common
example is

$$\text{Seeing is believing.} \qquad (3.72)$$

The analysis of this sentence is the same as that given in the previous
section for To give is to receive:

$$\text{If } \underline{\text{one}}\ \underline{\text{sees}}, \text{ (then) } \underline{\text{one}}\ \underline{\text{believes}}. \qquad (3.73)$$
$$(\ a \quad F) \longrightarrow (\ a \quad G\ )$$

Traditional grammarians interpret such a sentence as a kind of predicate

noun sentence on the basis of supposed permissible reversibility:

<u>Seeing is believing</u> = <u>Believing is seeing</u>. There is no identity of

meaning, however, and perhaps this is the reason that some analysts

avoid the term "predicate noun" and use instead just "subjective

complement." When so used, the term "subjective complement" becomes

meaningless, for it just labels some vague, undefined intuitive notion.

The resemblance of such a sentence to a predicate noun formulation is

misleading, as can be proven by comparing the two implicational forms:

<u>If one sees, then one believes</u> / <u>If one believes, then one sees</u>. The

meanings of the two sentences are different, for the intended meaning

of the saying is clearly that one must <u>first</u> see so that belief can

occur. Not only are the attributes attaching to <u>seeing</u> and <u>believing</u>

different, but also the propositional meanings of the two clauses are

different. There is no identity or even similarity of any kind. The

ordering must place <u>seeing</u> before <u>believing</u> because the latter is a

consequent of the former. Reversibility can only occur if one re-words

the sentence more extensively, perhaps to <u>One believes after one has</u>

<u>seen</u>; but the proposition, if not the grammatical structure, remains

as symbolized above, and no one, of course, would equate this sentence

grammatically with a subjective complement form, nor would anyone say

it is a transformation of the original saying or the symbolized impli-

cational form. <u>Seeing is believing</u> is, however, a transformation of

<u>If one sees, (then) one believes</u>.

Also classified as predicate complement gerunds (predicate nomi-

nals) are such sentences as

<div align="center">

<u>Mr. Miller's profession is teaching</u>   (3.74)

a   F

</div>

and

$$\underline{\text{Al's hobby}}_{a} \ \underline{\text{appears to be loafing}}_{F}. \qquad (3.75)$$

These two cases are unlike the gerund complement in <u>Seeing is believing</u>.

Since a profession is defined as a unit of people banded together in

common cause, it cannot be said to be equivalent to what the people

in the profession <u>do</u>. Likewise, a hobby <u>defines</u> an activity, but it

is not the performing of that activity itself. Sentence (3.74) is a

reduction by deletion of redundant elements shown below:

$$\underline{\text{Mr. Miller's profession}}_{a} \text{ is (that) } \underline{\underset{(b}{\text{he}} \ \underset{F}{\text{is teaching}})}. \qquad (3.76)$$

Sentence (3.75) implies a deleted subject in a passive voice form, <u>Al's

hobby appears (to me) to be that he is loafing,</u> which implies in active

voice

$$\underset{t_1}{\text{I}} \ \underset{2^R}{\text{think}} \ \underbrace{(\underset{a}{\text{Al's hobby}} \ \underset{F}{\text{is loafing}})}_{t_2}. \qquad (3.77)$$

In (3.76), <u>a</u> labels <u>profession</u>; <u>Mr. Miller's</u> is only a possessive modi-

fier which redundantly occurs as <u>he</u> (<u>b</u>) in the paraphrase; <u>he</u> may be

deleted since <u>Mr. Miller's</u> makes the subject obvious. The result is

the simplest of all logical patterns. But the paraphrase, (3.77) of

(3.78) shows more complexity because there are two propositions: <u>I</u>

<u>think (something)</u> and <u>Al's hobby is loafing</u>; one is a relation and the

other is a function. Thus, the <u>Al</u>-clause is functioning as a kind of

direct object (in traditional terms); the clause is not labeled as a

direct object because it is a proposition which completes the sense of

the first clause (proposition); i.e., the second proposition is embedded
in the first proposition.

Just as standard usage requires a possessive (not objective)
pronoun with a gerund in I don't like his smoking cigars (discussed
and compared with infinitive use earlier), so standard usage also
requires a possessive pronoun with a subject gerund. In this case,
however, the subjective usage makes more sense, for a sentence such as
His lying annoyed me is merely a reduced form of something like

$$He \ lied \ which \ (fact) \ annoyed \ me. \hspace{2cm} (3.78)$$

or

$$The \ fact \ (that) \ he \ lied \ annoyed \ me. \hspace{2cm} (3.79)$$

or

$$\underbrace{\underset{(a \quad F \ )}{\underline{He \ lied}}}_{t_1} \ \underset{\&}{\underline{and}} \ \underset{(t_1 \quad {}_2R \quad t_2)}{\underline{it} \ \underline{annoyed} \ \underline{me}.} \hspace{2cm} (3.80)$$

Sentence (3.80) is chosen as the simplest form from which (3.78) and
(3.79) are transformational derivations. Since the whole first clause,
He lied (= it), is a term with regard to the second proposition, the
requirement of a possessive in the gerundive use makes some sense,
for lying was something he did and thus in some sense belonged to him.
In any event, the pronoun does not originate as a possessive idea,
whatever the reasons adduced for its later form. It is probably not
the conjunctive form, past tense from which the original gerundive
sentence is derived. Nearly any definite past tense form can be
expanded (grammatically) to the progressive aspect form:

$$\underbrace{\underset{(a \qquad F \quad)}{\text{He was lying,}}}_{t_1} \underset{\&}{\text{and}} \underset{(t_1 \quad {}_2{}^R \quad t_2)}{\text{it annoyed me.}} \qquad (3.81)$$

It is the above progressive form, no doubt, from which the gerundive

form derives. The tense of the second verb causes ambiguity, for it

refers to definite past time, while _was lying_ may be meant progressively;

on the other hand, it may not be meant progressively, for the gerundive

in _His lying annoyed me_ can mean habitual behavior or an act just

performed. Since the time ambiguity exists in both _-ing_ forms, and

since the logical form agrees in all these cases, it seems beyond

doubt that the analysis is essentially correct. The gerundive form

is a reduction of the progressive form, where _He was_ becomes _His_ and

the redundant _it_ is deleted.

It is possible to interpret the remaining gerundive usages more

or less analogously to the above analysis. In direct object usage,

for example, the sentence _The I.R.S. doesn't like people misrepresenting_

their assets can be treated as

$$\text{The I.R.S. doesn't like people who misrepresent} \qquad (3.82)$$
$$\text{their assets}$$

or

$$\left[\underset{t_1}{\text{The I.R.S.}} \underset{{}_2{}^R}{\text{doesn't like}} \underbrace{\underset{(\ u_1}{\text{people}} \underset{{}_2{}^S}{\text{misrepresenting}} \underset{u_2 \quad)}{\text{their assets.}}}_{t_2} \right] \qquad (3.83)$$

The above analysis agrees with the earlier similar treatment of infini-

tive clauses (_misrepresenting_ = _to misrepresent_). Few people would

insist on the possessive form _people's_ in this construction, yet if

one substituted, say <u>John</u> and <u>his</u> for <u>people</u> and <u>their</u>, school gram-
marians would insist on the possessive <u>John's</u> (or <u>his</u>). There is
obviously something contradictory in such an analysis; to say "It
just sounds better" is ridiculous. Nor does it make sense (in the
infinitive construction) to require the objective case (for pronouns);
the "object" which the I.R.S. doesn't like is not <u>people</u> (or <u>John</u>
= <u>him</u>)--it is the activities represented by the whole second clause
which the I.R.S. doesn't like. The same analysis of the "object"
applies to the <u>-ing</u> construction. Therefore, misrepresenting is not
a gerund at all; it is a true verb derived from something like
<u>. . . are (always) misrepresenting their assets</u>. Since the <u>-ing</u> form
is a verb, not a nominal, it cannot be a direct object; the direct
object in the clause is <u>their assets</u>. Furthermore, it cannot be a
direct object because the whole <u>people</u>-clause is the direct object.
This latter fact is proven by recourse to the alternate form

$$\text{The I.R.S. doesn't like the fact that}$$
$$-\begin{bmatrix} t_1 & 2^R & t_2 \end{bmatrix}$$
$$\text{people misrepresent their assets.} \qquad (3.84)$$
$$(u_1 \quad 2^S \quad u_2) \quad "t_2"$$

The object term "t_2" is merely a more detailed explanation of the
object <u>the fact</u>. Thus, <u>people</u> is not possessive nor objective; the
<u>-ing</u> (or infinitive) form is not objective, but a true verb; and the
last clause, whether in the <u>-ing</u> or infinitive construction, should
logically begin with a subjective nominal.

The only reason some analysts say that gerunds may function as
prepositional complements is because of their refusal to recognize

that the so-called prepositions are often actually postpositions with

respect to verbs--i.e., they are verb particles. For example, in

<div align="center">

Robin Hood <u>delighted in</u> robbing the rich, (3.85)

</div>

the first verb is <u>delighted in</u> and the second is <u>robbing</u>, which

analysis is supported by the idiomatic alternative formulation

<div align="center">

Robin Hood <u>took delight in</u> robbing the rich. (3.86)

</div>

That <u>in</u> goes with <u>delighted</u> is further supported by the following

sentences:

<div align="center">

What Robin Hood <u>delighted in</u> was robbing the rich. (3.87)
Robbing the rich was what Robin Hood <u>delighted in</u>. (3.88)

</div>

If <u>in</u> were placed before <u>robbing</u> in these cases, ungrammatical sen-

tences would result. The same thing is true for countless other verbs

such as <u>tired of</u>, <u>insisted on</u>, <u>interested in</u>, <u>searched for</u>, <u>fought</u>

<u>with</u>, <u>talked about</u>, etc., when nouns or gerunds follow. The so-called

gerunds, however, are true verbs describing habitual behavior or

continuing process performed by someone, as the following paraphrases

show:

<div align="center">

Robin Hood was delighted in the fact that (3.89)
he was robbing the rich.

Robin Hood took delight in the fact that (3.90)

</div>

$$\text{Robin Hood} \underset{t_1}{\underline{\text{took delight in}}} \underset{2^R}{} \underset{t_2}{\underline{\text{the fact}}} \text{ that}$$

$$\text{(}\underset{t_1}{\underline{\text{he}}} \underset{2^S}{\underline{\text{was robbing}}} \underset{t_3}{\underline{\text{the rich.}}}\text{)}$$

$$\underbrace{\hspace{4cm}}_{"t_2"}$$

The notation has retained <u>t</u>'s, somewhat confusingly, throughout the

formula to show that the two "clauses" are actually inseparable; the

parentheses, as always, indicate the proper grouping. Thus, <u>robbing</u>
is not a direct object nor an object of a preposition; the only sense
in which <u>robbing</u> can be called a nominal is in the sense that it is
a part of the whole <u>he</u>-clause which is itself functioning as a kind
of direct object in that it is an extension (logically) of <u>the fact</u>,
in the same way that 2 + 2 is an extension of 4. Just as it is
somewhat inaccurate to say that a pie cut into two pieces is exactly
the same thing as a pie cut into four pieces (even though the totals
in both cases equal a whole pie), so it is inaccurate to say that a
part of an expression is equal to the whole expression even though
it is somewhat implied--i.e., <u>robbing</u> implies <u>he</u>. Thus, <u>He</u> (= <u>Robin</u>
<u>Hood</u>) is the subject of <u>robbing</u> even though it has been deleted in the
original sentence. <u>Robbing</u> by itself is not the object of anything.

A similar analysis applies to appositive gerunds. A case in
point is the sentence

His job, counting fish hooks, is boring. (3.91)

This sentence is a reduction of the sentence

His job, which is counting fish hooks, is boring. (3.92)

The analysis here is the same as the traditional one--the whole <u>which</u>-
clause modifies (extends the meaning of) the noun <u>job</u>--except that a
deleted <u>he</u> is the subject of <u>is counting</u>. <u>Which</u> by itself does not
refer to his <u>job</u>, but to the whole habitual, continual process inferred
by <u>His job</u> (that <u>he counts</u> fish hooks), as shown in the paraphrase

$$\underbrace{(\underbrace{\text{His job}}_{t_1} \text{ } \underbrace{\text{is counting}}_{2^R} \text{ } \underbrace{\text{fish hooks}}_{t_2})}_{a}, \underbrace{\text{which}}_{\text{"a"}} \underbrace{\text{is boring}}_{F}. \quad (3.93)$$

Which, ("a"), thus, is a reduced form of the whole first clause (a).

This formulation is a reduction of the truly appositive sentence

$$\underset{a}{\underline{\text{His job,}}} \quad \underset{(t_1}{\underline{\text{he}}} \quad \underset{2^R}{\underline{\text{is (always) counting}}} \quad \underset{t_2}{\underline{\text{fish hooks,}}} \quad) \quad \underset{F}{\underline{\text{is boring.}}} \qquad (3.94)$$

"a"

By transformational deletion of he (already inferred by his) and the

meaningless is, the original sentence, His job, counting fish hooks,

is boring, is obtained.

Participial Phrases and Clauses

Predication Versus Modification

Present Participles (hereafter, simply participles) are defined

as -ing verbals that function as adjective modifiers. Most so-called

modifiers, however, are really predicates, as has been demonstrated

many times.

The participle as an adjective complement is easily treated as

long as one recalls that with each additional modification (i.e., not

quantified "modification" and the like) there is an additional propo-

sition. As an instance, the sentence

$$\text{The players were busy planning strategies} \qquad (3.95)$$

is divisible into

$$\underset{a}{\underline{\text{The players}}} \quad \underset{F}{\underline{\text{were busy.}}} \qquad (3.96)$$

and

$$\underline{\text{The players}}_{t_1} \underline{\text{were planning}}_{2^R} \underline{\text{strategies}}_{t_2}. \qquad (3.97)$$

Hence, the complete sentence becomes

$$\underbrace{(\underline{\text{The players}}_{a} \underline{\text{were busy}}_{F})}_{t_1} \underline{\text{planning}}_{2^R} \underline{\text{strategies}}_{t_2}. \qquad (3.98)$$

The above formulation is motivated by the transformational form

$$\underbrace{(\underline{\text{The busy}}_{F} \underline{\text{players}}_{a})}_{t_1} \underline{\text{were planning}}_{2^R} \underline{\text{strategies}}_{t_2}. \qquad (3.99)$$

Incidentally, the above analysis proves that in <u>The players were busily planning strategies</u> the word <u>busily</u> is not an adverb modifying a verbal (planning), for it was their planning which kept them busy; in other words, their being busy was a consequence of their planning, not a modification or description of it.

Juxtaposition of subject and participle is what causes the notion of subjective modification to arise. A sentence such as

$$\underbrace{(\underline{\text{The crying}}_{F} \underline{\text{boy}}_{a)}}_{b} \underline{\text{was hurt}}_{G}. \qquad (3.100)$$

is simply a reduction to a complex propositional form; its component propositions are:

$$\underline{\text{The boy}}_{a} \underline{\text{was crying}}_{F}. \qquad \text{and} \qquad \underline{\text{The boy}}_{a} \underline{\text{was hurt}}_{G}. \qquad (3.101)$$

The so-called modification may occur before the subject as well as after it: <u>Crying, the boy sat down</u>; <u>The boy, crying, sat down</u>. In fact, <u>crying</u> may also terminate the sentence: <u>The boy sat down, crying</u>. All of these variations express the same two propositions and are symbolized just as the above cases:

$$\underbrace{\underset{(\quad\;F\quad\;a\;)}{\underline{\text{The crying boy}}}}_{b}\;\underset{G}{\underline{\text{sat down (= reclined)}.}} \qquad\qquad (3.102)$$

it can easily be seen that the traditional notion of "modification," as it is usually defined, is inaccurately applied. Personally, the present writer likes the loose application though, for it illustrates, in fact, logical relationships operating throughout the sentence, not just phrases within the sentence. The complex propositions above are, obviously, cases where one predicate in one sentence is moved to subject position in the other sentence, one redundant copula is deleted, and the resultant subject is, indeed, a kind of modification (just as it was when it was a predicate). The confusion which arises in the traditionalist's application of the concept of modification is due to the fact that the traditionalist fails to distinguish between simple sentences and non-simple (modified) sentences when the modifiers are single adjectives.

In the following sentence the "participle" comes after the subject noun phrase and before another noun phrase. Which does it modify? Some would say that it modifies the second noun phrase because there is another verb phrase which accomplishes the predication of the first noun phrase. The sentence is

The bill ending the state inheritance tax between
spouses was passed 96-1 Wednesday by the House of
Representatives and sent to Gov. David Boren.   (3.103)
     --John Greiner, The Daily Oklahoman, Jan. 30, 1975

The meaning (abridged) of (3.103) is clearly

The bill (which is) ending the state inheritance
tax was passed by them. . . ,   (3.104)

which, converted to active voice, becomes

$$\underset{(\ t_1 \quad \ _2{}^R \quad\ \ t_2\ \ )}{\underline{\text{They}}\ \underline{\text{passed}}\ \underline{\text{the bill}}}$$

$$\underset{(\ \hat{u}_1 \quad\quad _2{}^S \quad\quad\quad\quad u_2 \quad\quad\quad\ )}{\underline{\text{(which}}\ \underline{\text{is)}}\ \underline{\text{ending}}\ \underline{\text{the state inheritance tax.}}\ .\ .}\qquad (3.105)$$

$$(= t_2)$$

The redundant copula and pronoun which have been deleted; the latter's

function of connecting the two clauses is performed by the bill. The

"subject" of ending is They passed the bill, for it was by this action

that termination occurred; it was not just the bill that ended the

practive. Hence, the overall pattern would be

$$\underset{t_1 \qquad\qquad\quad _2{}^R \qquad\qquad t_2}{\underline{\text{They passed the bill}}\ \underline{\text{ending}}\ \underline{\text{the state inheritance tax,}}}\qquad (3.106)$$

if the internal structure of the first clause were ignored. Thus, the

first clause is a proposition functioning on a higher level as a term

for a different proposition in which ending is a true verb, not a

participle.

Further modification is, of course, possible, but this does not

alter the form of analysis. For example, The boy, crying noisily, woke

me is a merging of three propositions:

$$\underset{\substack{a \qquad F}}{\underline{\text{The boy}}\ \underline{\text{was crying}}}. \qquad (3.107)$$

$$\underset{\substack{a \qquad G}}{\underline{\text{The boy}}\ \underline{\text{was noisy}}}. \qquad (3.108)$$

$$\underset{\substack{t_1\ (=a) \qquad {}_2R \quad t_2}}{\underline{\text{The boy}}\ \underline{\text{woke}}\ \underline{\text{me}}}. \qquad (3.109)$$

The transformed sentence is thus analyzed as

$$\underline{\text{The boy}},\ \underline{\text{crying}}\ \underline{\text{noisily}},\ \underline{\text{woke}}\ \underline{\text{me}}. \qquad (3.110)$$

Other transformations, such as <u>The boy who was crying noisily</u>, are also

possible, but the logical relationships remain identical. The close

relationship of verbs, adjectives, and adverbs is shown above where

the adjective <u>noisy</u>, by rule, must add <u>-ly</u>, giving the appearance of a

different part of speech (adverb) when it is juxtaposed to the verbal

(participle). It is interesting to note that some would require, for

the sake of good usage, that the possessive case be used in the subject:

<u>The boy's crying noisily woke me</u>; and in deleting the commas, some

would say the main subject (topic) has been altered from <u>boy</u> to <u>crying</u>!

Thus, this sentence shows the essential closeness of good logical

analysis and its relationship to correct syntactic judgments. Whether

<u>boy</u> or <u>crying</u> is being stressed is merely a rhetorical matter of focus.

If one ignores the concept of "subject," one may focus on whatever he

wishes without doing violence to the logico-syntactic analysis. The

possessive and non-possessive forms are, in all essentials, the same

proposition, and the same syntactic analysis applies to both inter-

pretations.

Modification and Voice

Participles may be active or passive. The sentence below illustrates both types:

$$\text{Knowing he was being sought, he fled.} \qquad (3.111)$$

$\underline{\text{He}}$ is obviously the subject of $\underline{\text{knowing}}$, and $\underline{\text{by someone}}$ is the implied subject of $\underline{\text{being sought}}$. Consequently, the logico-syntactic form of the sentence is as follows:

$$(\text{Since}) \; \underset{u_1 \;\; 2^S}{\underline{\text{he knew}}} \; \underbrace{(\overset{\frown}{\underset{t_1}{\text{someone}}}) \; \underset{2^R}{\underline{\text{was seeking}}} \; \underset{t_2}{\text{him,}}}_{u_2 (=\text{"it"})} \to \underset{u_1 \quad G}{(\underline{\text{he}} \;\; \underline{\text{fled.}})} \qquad (3.112)$$

In the above formula, $t_2 = u_1$; the $\underline{t}$'s have been retained in the internal clause to attain "symmetry"—i.e., to differentiate the clauses perspicuously. Actually, the existence of three places in the sentence all referring to the subject helps to establish the overlapping of the three clauses; none is mutually exclusive of the others. $\underline{\text{Knowing}}$ in the original sentence carries the force of continuation and implication (= because he had known for some time. . .) and is more suitable than the definite past $\underline{\text{knew}}$ in the formalized version; but the formalized version allows one to perceive the structure now of the original sentence:

$$(\text{He}) \; \underset{\overset{\frown}{u_1}\;\;2^S}{\underline{\text{knowing}}} \; \underset{(t_2}{\underline{\text{he}}} \; \underset{*^R_2}{\underline{\text{was being sought}}} \; (\underset{\overset{\frown}{t_1}}{\underline{\text{by someone}}}), \; \underset{u_1\quad G}{(\underline{\text{he}} \;\; \underline{\text{fled.}})} \qquad (3.113)$$
$$(= t_2) \qquad\qquad\qquad u_2$$

The second (passive) "term" is substituting for a whole proposition above. The circumflexed elements, as in earlier cases, stand for deleted portions.

The participle is often used in a kind of "hidden passive." The sentence, Obtaining knowledge is advantageous, is such a case, for it implies something like for people at the end of the sentence. Converting this to active voice form, the result is For people, obtaining knowledge is advantageous. Again, some would allow or advocate the possessive conversion to People's obtaining knowledge is advantageous. But, as shown earlier, these conversions or preferences do not affect the analysis at all; one reason is that the same meaning is conveyed by the infinitive form of the sentence without changing to possessive form of the pronoun: For people to obtain knowledge is advantageous. The meaning is clearly that the process or activity of obtaining knowledge is advantageous, as implied in the verbal obtaining. A rough paraphrase would be

$$\underset{t_1}{\underline{\text{People}}} \; \underset{2^R}{\underline{\text{should obtain}}} \; \underset{t_2}{\underline{\text{knowledge}}}, \qquad (3.114)$$

but, while displaying the true verb aspect of obtain, it departs too much from the original wording, for it omits the process-meaning. It does, however, have the advantage of showing from where the "nominalized" possessive form has come, which permits For-deletion. If one merges the forms below by deletion transformations, the original sentence can be obtained:

$$\underset{a}{\underline{\text{Knowledge}}} \; \underset{F}{\underline{\text{is advantageous}}} \; (\text{for people}). \qquad (3.115)$$

$$\underline{\text{People} \quad \text{should obtain} \quad \text{knowledge.}} \qquad (3.116)$$
$$\quad t_1 \qquad \qquad {}_2{}^R \qquad \qquad t_2 \ (=a)$$

$$\underline{\text{People's} \quad \text{obtaining (of)} \quad \text{knowledge} \quad \text{is advantageous.}} \qquad (3.117)$$
$$(\quad t_1 \qquad \qquad {}_2{}^R \qquad \qquad t_2 \qquad) \qquad \qquad F$$
$$b$$

Example (3.117) is a nominalization of (3.116) (= <u>People (who) are</u>

<u>obtaining. . . .</u>). Perhaps a more complete formulation of (3.117)

would be: <u>For people who are obtaining knowledge, it is advantageous.</u>

The verbal <u>obtaining</u>, thus, comes from a who-clause and is in the

progressive aspect and is a true verb. Therefore, the final form is

$$\underline{\text{. . . obtaining} \quad \text{knowledge} \quad \text{is advantageous.}} \qquad (3.118)$$
$$(\quad \hat{t}_1 \qquad {}_2{}^R \qquad t_2 \qquad) \qquad \qquad F$$
$$b$$

The first, circumflexed <u>t</u> refers to the deleted referent <u>People</u> (or

<u>People's</u>).

The participle may come after the direct object, but, as above,

it should not be construed as an object modifier as it is in most

schoolroom handbooks. It is still just a disguised verb--disguised

because of transformations that have taken place. In <u>He saw the cat</u>

<u>clawing at the cage</u>, e.g., <u>clawing</u> does not modify <u>the cat</u>, as can be

seen by expanding the sentence to its longer, redundant form:

$$\underline{\text{He} \quad \text{saw} \quad \text{the cat} \quad \text{that} \quad \text{was clawing at} \quad \text{the cage.}} \qquad (3.119)$$
$$t_1 \quad {}_2{}^R \qquad t_2 \qquad (t_2 \qquad {}_2{}^S \qquad \qquad t_3 \quad)$$

As the duplicated second term shows, the pronoun <u>that</u> is unnecessary

and can, in fact, be deleted; <u>was</u> is unnecessary too, for past tense

is shown by <u>saw</u>, and progressive aspect is shown by <u>-ing</u>. Therefore,

the analysisis is just the same as in the previous example:

$$\underbrace{\text{He}}_{t_1} \ \underbrace{\text{saw}}_{2^R} \ \underbrace{\text{the cat}}_{t_2} \ \underbrace{(\text{pronoun})}_{t_2} \ \underbrace{(\text{copula}) \ \ldots \ \text{clawing at}}_{2^S} \ \underbrace{\text{the cage.}}_{t_3} \quad (3.120)$$

It is advantageous above to use $\underline{t}$'s throughout; the parentheses show which two terms go with $\underline{S}$; the term numerals are merely labels, but after deletion of certain elements the order may also be shown by the numerals.

The participle is said to be capable of functioning also as a predicate adjective after linking verbs. But, as noted in Chapter II, such usage is really predicative in the same way as verbs are predicative. An added factor here is that sentences containing predicate adjective participles seem to be "disguised passive" sentences. For example, Something is lacking in your behavior is more or less equivalent to Something is lacking in your behavior, it seems to me. Converting seems to "active voice," the latter sentence becomes

$$\underbrace{\text{I}}_{u_1} \ \underbrace{\text{think}}_{2^S} \ \underbrace{(\text{you}}_{t_1} \ \underbrace{\text{are lacking}}_{3^R} \ \underbrace{\text{something}}_{t_2} \ \underbrace{\text{in your behavior.}}_{t_3}) \quad (3.121)$$
$$u_2 \ (= \text{"it"})$$

In (3.121), seems and think are regarded as semantically equivalent. Any dictionary one consults defines seem as appear to be (etc.), which is obviously passive. For example, a sentence such as It seems frustrating to me may also be stated as It seems to be frustrating to me without change of meaning or mood. The trouble with such a passive is that converting it to active voice is not a straightforward procedure as it is with more normal verbs. The active form of seem, some say, is see in its widely used sense of think. (Actually, verbs such as

seem and appear are more like the subjunctive mood in that both

express doubt.) So, converting the above sentence to active voice

requires that some liberties be taken in the paraphrase.

$$\begin{array}{c} \underline{I} \text{ see } \underline{it} \text{ as frustrating.} \hspace{2cm} (3.122) \\ \underline{I} \underline{\text{ think }} \underline{it} \underline{\text{ is frustrating.}} \hspace{1.8cm} (3.123) \\ t_1 \quad 2^R \underbrace{(\text{a} \qquad \text{F} \qquad)}_{t_2 \; (= \text{"it" or "this"})} \end{array}$$

The result, then, is a kind of direct object sentence, not predicate

adjective. The object is not the verbal, but the whole it-clause.

In (3.121) as seems to be substituting for to be as a kind of com-

parative (to something not stated). The interesting thing is that the

"passive" can persist; similarly, the "passive" persists in

$$\begin{array}{c} \underline{I} \underline{\text{ find }} \underline{it} \text{ (to be) } \underline{\text{frustrating.}} \hspace{1.5cm} (3.124) \\ t_1 \quad 2^R \underbrace{(\text{a} \qquad \quad *\text{F} \qquad)}_{t_2} \end{array}$$

However, as the schema shows, to be is optional. Further, the active

can be reasserted without changing the word order:

$$\begin{array}{c} \underline{I} \underline{\text{ find }} \underline{it} \underline{\text{ is frustrating.}} \hspace{1.8cm} (3.125) \\ t_1 \quad 2^R \underbrace{(\text{ a} \qquad \text{F} \qquad)}_{t_2} \end{array}$$

To me may still be inserted terminally, but this is a direct object in

a present progressive clause equal to It frustrates me. Structurally

speaking (logically and syntactically), these analyses do prove that

It seems (to be) frustrating me is a passive formation, which when

converted to quasi-active form displays the fact that the -ing word

is a true verb. But semantically speaking, these conversions do not

seem clearly or necessarily to convey the idea of uncertainty inherent in _seems_. This fact is probably why many grammarians treat _seems_ in _It seems frustrating_ as active. The verb _appears_ causes the same trouble, for it can be substituted in all the above formulations; the same is true of _looks_.

Another passive verb which is hard to analyze according to the standard passive transformational procedure is _become_. For instance, one may compare the following sentences, keeping in mind that _become_ is equivalent to the passive _come to be_ plus complement:

Her hat is becoming (to her).	(Passive, progressive, or predicate complement?)	(3.126)
Her hat becomes (=suits) her.	(Active or passive?)	(3.127)
I find her hat becoming (to her).	(Reduction of next sentence?)	(3.128)
I find her hat is becoming (to her).	(Passive, progressive, or predicate complement?)	(3.129)
I find her hat become (=suits) her.	(Active or passive?)	(3.130)

The passive nature of _become_ (= _come to be_) indicates that to say _Her hat becomes her_ is to say that *_Her hat comes to be just for her_--i.e., it _is befitting_; thus, it is a passive form. And to say _Her hat is becoming to her_ is to say *_Her hat is coming to be just for her_; thus, this sentence is also a passive in form. In spite of the form, the sense of all of these examples above, to the present writer, is active (either straight indicative or present progressive aspect). What these examples show is the difficulty of applying analytical techniques on the basis of form alone or meaning alone. Even when form and meaning are both considered, a decision such as has been made here may seem a bit artibrary. In any event, the -_ing_ forms are here all considered to be in progressive aspect, hence _is becoming_ is a true verb, not a verbal.

Traditionalists and structuralists would classify all the recently discussed -ing forms as predicate complements because an adjective modifier, such as very, can be inserted before the verbal. This argument is quite persuasive, but it is not without counterexamples. As an instance, one may note the sentence, Paul was entertaining (very) much last night. Since very is synonymous (and redundant) to much (many), the latter may be deleted, but only if very is moved by transformation to the left of entertaining--thus producing Paul was very entertaining last night. Finally, this latter sentence's meaning, in fact, implies that very modifies something besides entertaining. Very and much here imply people, place, time, and the like. That is, sentences such as the following result:

<pre>
                              many friends.
                              much of the time.
         Paul was entertaining much at home.   (3.131)
</pre>

By the very meaning of the activity of entertaining, how could an intensifier-quantifier modify entertaining? A little reflection will reveal the point. Perhaps a few other examples will help to clarify the issue:

<pre>
                              being (helpful)
                              playing
                              singing
                              acting
         *Paul was very helping last night.   (3.132)
</pre>

All of these verbals might well define the kinds of entertaining that Paul was doing, yet none of them can be modified by very. However, all of them could use very to modify later ideas:

> being very helpful. . . .
> playing very well. . . .
> singing very poorly. . . .
> acting very strange(ly). . . . .
> Paul was helping very much with. . . .   (3.133)

Thus, in Paul was very entertaining last night, very cannot modify

the -ing word, for it makes no sense; such a formation must result by

transformation from a set of sentences such as those immediately above,

where very has been moved between the auxiliary and the -ing word, and

the implied portion of the sentence has been deleted.

A participle as an objective complement is usually said to differ

from the participle as a modifier of the object.[21] The question, then,

is what function exactly does such a complement perform? The term,

apparently, is just a label for something beyond explanation. To say

that a complement is a completer (but not a modifier) is to say nothing

if one does not say just how the completion is accomplished and what

purpose it serves. Conlin contrasts, as he says, "this function and

the modifying function of the participle. . . ."[22] If the objective

complement is not a modifier, what is it? Conlin cites, as illustra-

tions, the following two sentences:[23]

> Mary found the book interesting.   (3.134)
> Mary found the interesting book.   (3.135)

The interpretations of these two sentences can, indeed, differ; but

they do not necessarily differ; and if they do not, then however

interesting functions, it functions alike in both cases. Example

(3.134) means

$$\underline{\text{Mary}} \quad \underline{\text{found}} \quad \underline{\text{the book}} \qquad (3.136)$$
$$t_1 \qquad {}_2R \qquad t_2$$

and

$$\underline{\text{The book}}_{u_1} \underline{\text{was interesting}}_{2^S} \underline{\text{(to her)}}_{\hat{u}_2}. \qquad (3.137)$$

Hence, the two combined propositions are

$$\underline{\text{Mary}}_{t_1} \underline{\text{found}}_{2^R} (\underbrace{\underline{\text{the book}}_{u_1} \underline{\text{(was) interesting}}_{2^S} \underline{\text{(to her)}}_{\hat{u_1}}}_{t_2}) (= t_1) \qquad (3.138)$$

Sentence (3.137) is a transformation of

$$\underline{\text{Mary}}_{t_1} \underline{\text{found}}_{2^R} \text{that} (\underbrace{\underline{\text{the book}}_{u_1} \underline{\text{interested}}_{2^S} \underline{\text{her}}_{u_2}}_{t_2 \ (= \ "it")}) (= t_1) \qquad (3.139)$$

Thus, both of the last two formulations show that _interesting_ and _interested_ are true verbs which are parts of clauses; and each clause as a whole is functioning as a kind of direct object. Now, it is possible to present a "cleaner" notational solution:

$$\underline{\text{Mary}}_{t_1} \underline{\text{found}}_{2^R} (\underbrace{\underline{\text{the book}}_{a} \underline{\text{interesting}}_{F}}_{t_2}). \qquad (3.140)$$

Conlin's second sentence, (3.135), is ambiguous. It can mean that the book Mary found was interesting to her, or it can mean she found a book which was interesting to others (i.e., intrinsically)-- but the latter interpretation would make little sense in most contexts. But since the first interpretation would be exactly like the solution above, (3.140), for (3.134), consideration must be given to the second possibility. Sentence (3.135), then, breaks down as follows into

the propositions
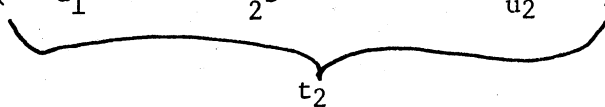
$$\underline{\text{Mary}} \ \underline{\text{found}} \ \underline{\text{the book}} \qquad\qquad (3.141)$$
$$\phantom{\underline{\text{Mary}}}{t_1} \quad {_2}^R \quad\ \ {t_2}$$

and

$$\underline{\text{The book}} \ \underline{(\text{was}) \ \text{interesting}} \ \underline{(\text{to others})}. \qquad (3.142)$$
$${u_1} \ (= t_2) \qquad\qquad {_2}^S \qquad\qquad \widehat{u_2}$$

Hence,

$$\underline{\text{Mary}} \ \underline{\text{found}} \ \underline{\text{the book}} \ \underline{(\text{was}) \ \text{interesting}} \ \underline{(\text{to others})}. \quad (3.143)$$
$${t_1} \quad {_2}^R \ (\quad {u_1} \qquad\qquad {_2}^S \qquad\qquad \widehat{u_2} \quad)$$
$$\underbrace{}_{t_2}$$

Thus, in analyzing Conlin's pair of sentences, extreme attention must

be paid to the notational symbolism only if there are two interpre-

tations. The above solution would be exactly like the former solution

where the internal object her was retained even though on an "under-

stood" basis. Using that solution with the one above would require

different letters in object clauses to differentiate them, for the

mechanical structures are the same! If the assumed elements were

removed from the above solution, as they were with the final solution

of the first sentence, attention to the notation would again be very

important. In most extralinguistic contexts, however, the two sen-

tences mean essentially the same thing, and either the expanded or

simplified solutions would be an adequate logico-syntactic explanation

of the structures of the sentences. After all, it would be extremely

unusual to find a book interesting if it were not interesting to the

person who found it. That is, if I found an interesting book, it

ordinarily means that I found the book interesting. So, it may be concluded that Conlin's traditional distinction is trivial to the point of ridiculousness. Should such a situation arise, the symbolism can be precisely defined to handle it. The rarity of such a distinction probably accounts for the lack of a proper traditional definition; it cannot be defined for most cases because such cases seldom exist.

Participles, since they are thought to be adjectives, should be able to modify (or amplify) other adjectives. This is what most grammarians would say is being done in the following sentence:

The boiling hot water burned the howling angry man.   (3.144)

Logically, as noted so often, adjectives are predicates; so, the embedded propositions are:

The water burned the man.	(3.145)
The water was hot.	(3.146)
The water was boiling.	(3.147)
The man was angry.	(3.148)
The man was howling.	(3.149)

A particularly difficult example was chosen this time to illustrate several things: (1) the complicated nature of human thought and language, (2) the difference between true verbs (so-called participles) and adjectives, and (3) "participles" in both subject and predicate positions. The analysis is as follows:

$$\text{The hot water (which) (was) boiling burned}$$
$$\left[(F \quad a) (\hat{a} \quad G) \right]_2 R$$
$$t_1$$

$$\text{the angry man (who) (was) howling.} \qquad (3.150)$$
$$\left[(H \quad b) (\hat{b} \quad I) \right]$$
$$t_2$$

Deleting the "understood" elements, the formula like this:

$$\left\{ \left[\underbrace{(F\ a)\ (G)}_{t_1} \right] \ 2^R \ \left[\underbrace{(H\ b)\ (I)}_{t_2} \right] \right\} \tag{3.151}$$

Following the transformational procedure of many generative grammar books, the redundant personal pronouns are deleted, the copulas are deleted because the continuous idea is retained in the -ing forms, and these latter forms are moved to the front of the subjects in their respective clauses.[24] It should also be noted that each -ing form could be placed on either side of the other adjective in each clause. The capital letters under the -ing portions of the sentences indicate that they symbolize true verbs in the progressive aspect, not adjective modifiers. Later deletion and movement transformations tend to obscure this fact because of the resulting juxtapositions of the -ing forms with the adjectives and the nouns.

Definitional Chaos Again: Participial Adverbs

The last two cases of participial usage, which will be considered next, illustrate the contradictory character of traditional grammatical theory. Participles, it is claimed, function as adjective modifiers. What does one do, then, when the participial expression seems to be modifying the verb in a given sentence? Why, just say that this is "one of the rare adverbial uses of the -ing form of the verb," of course![25] Thus, the definition fails. For if adjectives (including participles) modify nominals by definition; and adverbs modify verbs, adjectives, and other adverbs by definition; and

participles can also be adverbial; then participles can modify nouns, verbs, adjectives, and adverbs--i.e., _all_ the major parts of speech! And, to further compound the problem, if participles (and infinitives and gerunds) are verbs from the standpoints of form and meaning, but may function as subjects, complements, or modifiers, then participles seem to form a separate, all-inclusive category all by themselves![26] In other words, no definition whatever has actually been developed. What _has_ been proven, however, is the "centrality" of the verb in its clause or sentence; it is the central core of the sentence in which it exists.

The idea of "adverbialhood" for the participle probably rests on a comparison with the infinitive form cited earlier, which is here repeated with its participial counterpart:

$$\text{He has gone } \underline{\text{to hunt}}. \qquad\qquad (3.152)$$

$$\text{He has gone } \underline{\text{hunting}}. \qquad\qquad (3.153)$$

"Adverbialhood" is established as follows: (1) the "verbals" are obviously verb forms because they may be used as verbs: _What I like to do is (to) hunt_, where _to do_ signifies the action of hunting, also shown in _He is hunting_; (2) the so-called adverbial signaler, _in order to_, may be inserted in the infinitive sentence (but it should be noted that it may not be inserted in the participial sentence, even though the sentences look formally very much alike and mean the same thing); (3) _it_ or _that_ may not be so inserted, thus showing, presumably, that the verbal expressions are not functioning as objects (nominals); and (4) the juxtaposition of the verbals to the main verb _go_ seems to hint at verbal modification (by definition of adverbial), which hint is

validated if (1) through (3) work out satisfactorily. However, as shown in the infinitive section, the proper way to view either the infinitive or the participial form of the sentence is as a trans-formational case of

$$\left[\;(\underset{a}{\underline{He}}\;\;\underset{F}{\underline{has\;gone}}\;)\;(so\;that\;\underset{\hat{a}}{\underline{he}}\;\underline{might})\;\underset{G}{\underline{hunt}}\;)\right] \qquad (3.154)$$

Sentence (3.154) means that the man has gone in order to carry on the (continuing) activity of hunting. Thus, the conjunctive elements so that and the redundant elements he might are deleted; and -ing is added to hunt to retain the continuous aspect idea; the result is, therefore, He has gone hunting. where the -ing form already exists with its auxiliary be, thus evincing the progressive aspect nature of hunting, and controverting the idea that hunting is adverbial. In terms of the reduced sentence form, He has gone hunting, gone may be said to function as a quasi-auxiliary retaining its meaning; but the main verb is hunt.

The fact that the participle can be modified by an adverb, of course, does not prove that the participle is an adverb too, for adverbs also modify verbs. An example is The girls came laughing loudly into the house. This sentence breaks down into three propositions:

The girls came into the house.	(3.155)
The girls (who) were laughing.	(3.156)
The girls were loud.	(3.157)

These, combined, are analyzed thus:

$$\underbrace{(\underset{a}{\underline{The\;girls}}\;\underset{F}{\underline{came}})}_{t_1}\;\underset{_2R^1}{\underline{laughing}}\;\underset{R^2}{\underline{loudly}}\;\underset{t_2}{\underline{into\;the\;house}}. \qquad (3.158)$$

As in (3.153), one could say, in terms of the above combinatory
sentence, that came is functioning as a quasi-auxiliary, but it is
here analyzed as the verb in the first proposition above; in terms of
a merging of the first two propositions, the verb is compound: came
laughing; the main verb of the whole sentence is, however, laughing
(from the progressive aspect were laughing). Loud is not a predicate
adjective, for it does not predicate a quality or attribute of the
girls, but of what they did, namely laugh; so, when combined with the
verb laughing, a grammatical transformation to -ly indicates this fact.

Participles are also, unaccountably, said to function adverbially
in "sentence modifiers." Stageberg, in his structural grammar, says:
"A sentence modifier is an adverbial which modifies, as its head, all
the rest of the sentence, ..."[27] Among his examples, he cites one
participial case:[28]

Considering the circumstances, he was lucky to escape alive. (3.159)

The underlined portion of (3.159) cannot be adverbial by definition.
Adverbs are supposed to modify verbs, adjectives, and other adverbs.
If they modify sentences too, as Stageberg claims, they also modify
nouns; for sentences not only contain nouns, but they also function
as nominals at times, according to the structuralist--e.g., in (What
I want) is advice, the parenthesized portion of the sentence is
itself a nominal sentence. Again, the definition of "adverb" fails.
As the term indicates, an adverb must be a specification of a logical
function (or relation). Distributional definitions or form definitions
(-ly) are hopelessly inadequate. Sentence (3.159) contains an implied
subject:

$$\text{If } (= \text{when}) \underline{(\text{one})} \ \underline{\text{considers}} \ \underline{\text{the circumstances}}, \ \ldots \ \ldots \qquad (3.160)$$
$$(\ \hat{t_1} \qquad \quad 2^R \qquad \qquad t_2 \qquad)\!\!\rightarrow\!\!(\ \ X\ \ )$$

The only difference in this formation from the so-called adjectival

modification is the presence of a subject in the main clause--e.g.,

Knowing the danger, I ran, where I is also the subject of the dependent

clause. The sentence is, then, an implicational sentence. The comma

(pause) equals then, the verbal construction and meaning implies if

(or when) and a covert subject, and X stands for an unanalyzed clause.

The -ing form in the original sentence is simply an expansion of the

above example to If one were considering; i.e., a subjunctive progres-

sive is the source of considering; i.e., where subject, copula, and if

deletions have occurred.

Example (3.160), like many discussed earlier, points up the fact

again that transformational grammarians would not have to posit

strange, deviant, underlying structures to account for the problems

that have been noted in the course of this exposition, if they would

only examine the history of the language. It is true that the sub-

junctive form is no longer very productive, but it once was used

rather frequently. It should be unnecessary to say that, as English

has evolved, various archaic forms, once productive, have gradually

changed into the forms we know today. Though transformational gram-

marians especially emphasize the idea of one form coming from another,

subjunctive examples, for the most part, are conspicuous by their

absence in transformational works. Yet, in the development of the

present work the subjunctive has often been found to supply an

answer to grammatical problems. The moral seems to be: Before one

searches for linguistic answers in "depth psychology," philosophy, etc.,

one should first exhaust the materials in his own discipline. Many

grammarians, thus, seem functionalyy illiterate with respect to the

earlier stages of the history of the English language.

"Pasticipial" Phrases and Clauses

Pasticipial Problems in Tense, Voice, and Aspect

Traditionally, a past participle (hereafter, "pasticiple") is

said to perform just like a present participle--i.e., as an adjective

modifier--except that it refers to past time; and it may also occur in

both active and passive voices. In form, the pasticiple is inflected

ordinarily in the same way that the past tense of the verb in question

is (either regular or irregular); the regular form ends in a dental

suffix, usually spelled -d or -ed, but sometimes -t; in other (irregular)

cases, the inflection is often spelled -en. Because of its close

association with the past progressive aspect, the perfect tenses, and

the passive voice, it is often confused with them.

Since the pasticiple performs the adjective function (presumably),

it may occur as a subject modifier, as in the sentence, The fallen

rain flowed everywhere. Logically speaking, however, this sentence

is composed of the following propositions:

$$\underset{a \quad\quad F}{\underline{\text{The rain}} \ \underline{\text{had fallen}}.} \quad\quad\quad (3.161)$$

$$\underset{t_1 \quad 2^R \quad\quad t_2}{\underline{\text{The rain}} \ \underline{\text{flowed}} \ \underline{\text{everywhere}}.} \quad\quad\quad (3.162)$$

Sentence (3.160), a true verb in the past perfect tense formulation,

provides the source of fallen in the merged version. Both (3.161) and

and (3.162) can first be made into a compound sentence; then a

relative clause pattern may be derived from it:

$$\text{The rain which had fallen flowed everywhere.} \qquad (3.163)$$

The redundant auxiliary is then deleted; also the auxiliary had is

redundant, for the tense is shown in the inflection -en, and is there-

fore deleted; finally, the verb fallen is moved to the front of rain,

but mere movement does not change its logico-syntactic function of

predication:

$$\text{The fallen rain flowed everywhere.} \qquad (3.164)$$

Fallen is, therefore, a true verb, not a pasticiple in the traditional

sense. The analysis is semantically sound too, for fallen does not

describe something about rain, but specifies what rain does.

The pasticiple may occur after the subject: Bacon, fried crisp,

is (= tastes) good. The propositional breakdown is:

Bacon is fried (by someone). (3.165)
Bacon is crisp. (3.166)
Bacon is good. (3.167)

The original sentence is thus obtained from the passive (not predicate

adjective) form indicated by the first example above. This can easily

be seen if each proposition is strung one after the other in a kind of

"compound" (relativization):

Bacon which is fried (by someone) which is crisp is good. (3.168)

The diagram shows the bracketed notation:

```
 ⎧ ⎡b  ( b    *F  )        ( b      G )⎤  H ⎫
 ⎨ ⎣                                    ⎦    ⎬
 ⎩                        a                  ⎭
```

By someone is not labeled so as to avoid notational problems; it is
deleted anyway, since it really means by anyone at all; it was inserted
above to show the true verb nature of fried. The a indicates a complex
argument operated upon by the predicate H. To reduce to the original
sentence requires deletion of the redundant pronouns and copulas in
the relative clauses. The result is

Bacon, fried crisp, is good.   (3.169)

```
 ⎡b     (*F)   (G)⎤   H
 ⎣                ⎦
         a
```

The argument a is, of course, not really an argument in the usual
sense, for it is composed of an argument operated upon by two logical
functions; yet the whole acts as a kind of argument operated upon by H
(is good). The a could have been left out; the bracketed expression
operated upon by H accurately represents the situation.

The pasticiple may occur in a clause which precedes a main
clause whose head noun is said to be modified by the pasticiple, as in

Hampered by the ropes on his feet, the prisoner stumbled. (3.170)

As stated in the discussion of present participles, this is nonsense;
hampered is a true verb whose subject is the prisoner, and thus not a
case of modification according to the traditional definition of
modification. The correct rendition is

$$\underline{\text{The prisoner}}\ \underline{\text{was hampered}}$$
$$t_1 \qquad\qquad {}^*_3 R$$

$$\underline{\text{by the ropes}}\ \underline{\text{on his feet}}, \quad \text{(and)} \ldots \ldots \qquad (3.171)$$
$$t_2 \qquad\qquad t_3$$

The psychological subject is <u>the ropes</u>, as in the active voice sentence, <u>The ropes on his feet hampered the prisoner</u>. Thus, (3.171) is in the passive voice; the so-called verbal is not a predicate adjective modifying <u>the prisoner</u>. Therefore, in

$$\ldots \ \underline{\text{hampered}}\ \underline{\text{by the ropes}}\ \underline{\text{on his feet}}, \ldots , \qquad (3.172)$$
$$\hat{t}_1 \qquad {}^*_3 R \qquad t_2 \qquad\qquad t_3$$

there has merely been transformational deletion of the meaningless copula and the redundant subject which initiates the next clause.

In a sentence such as <u>Having been convicted by the jury, the defendant was sentenced by the judge</u>, the pasticiple is said to be in the passive voice and is said to modify <u>the defendant</u>. The problem and its solution are similar to the last case. Supplying the missing elements and converting the first clause to past perfect tense produces

$$\underline{\text{The defendant}}\ \underline{\text{had been (=was)}}\ \underline{\text{convicted}}\ \underline{\text{by the jury}},$$
$$(\qquad t_1 \qquad\qquad {}^*_2 R \qquad\qquad\qquad t_2 \qquad)$$

$$\underline{\text{and}}\ \underline{\text{the judge}}\ \underline{\text{sentenced}}\ \underline{\text{him}}. \qquad\qquad\qquad (3.173)$$
$$\& (\quad u_1 \qquad {}_2 S \qquad u_2)$$

The last clause (where $u_2 = t_1$) has been transformed to the active voice; this clause can be dispensed with hereafter, for the transformation proves that the original verb was passive, not a predicate adjective. In the first clause, the passive voice has been retained (the psychological subject is <u>the jury</u>) because it is the form from which the original sentence has been obtained by transformation. There

is only one hitch: <u>Having been</u> is present perfect, but the force of

the verb is the past perfect tense because the time of the action

expressed by the verb occurred before the action expressed by the

past definite tense of <u>sentenced</u>. Thus, changing <u>had</u> to <u>have</u> results in

<p style="text-align:center">*Have been convicted by the jury, ...   (3.174)</p>

The transformation of <u>have</u> to <u>having</u> is necessitated by the implication

of a deliberating process, suggested by the paraphrase: <u>After the</u>

<u>jury was through convicting him, the prisoner was sentenced by the</u>

<u>judge</u>. The problem of tense here is brought on, thus, by the fact that

there is both a past progressive aspect and past perfect (passive)

tense operating simultaneously. Hence, deleting the redundant <u>the</u>

<u>defendant</u> (implied by the same phrase in the second clause), the

final form is

<p style="text-align:center">. . . <u>Having been convicted by the jury</u>,
$\widehat{t_1}$ $\overset{*}{2}R$ t_2</p>

<p style="text-align:center">the defendant was . . . ,   (3.175)</p>

where <u>having</u> refers to the convicting being done by the jury. This

analysis is supported by the variant active formulation: <u>The jury</u>

<u>having convicted him, the prisoner was sentenced by the judge</u>. In this

formulation, the present perfect is apparent, hence <u>have</u> rather than

<u>had</u> occurs. It should be noted that there is no such form as *<u>hadding</u>,

which causes the past perfect sense of the original sentence to be

carried by <u>having</u>; the jury's convict<u>ing</u> (progressive), therefore,

must be signaled in the present perfect form so that the <u>passive</u> (<u>-ed</u>)

can be displayed by inflection on <u>convict</u>. Some would require the

possessive in <u>The jury's having convicted him</u>, ...

The curious relationship of the perfect tenses, the progressive aspect, and the passive voice with each other can be illustrated by reference to two simpler and similar archaic expressions:

(You) <u>have done</u> with that (now)!	(present perfect + imperative)	(3.176)
(You) <u>having done</u> (= finished) with that, you left.	(present perfect + progressive)	(3.177)
(Since) (you) <u>had done</u> (= finished) with that, you left.	(past perfect)	(3.178)

(You) <u>be done</u> with that (now)!	("passive" + imperative)	(3.179)
(You) <u>being done</u> (= finished) with that, you left.	("passive" + present progressive)	(3.180)
(Since)(you) <u>were done</u> (= finished) with that, you left.	(past "passive")	(3.181)

The first sentence in each triple is in the imperative mood, but according to most schools of grammar, all that needs to be done to convert to normal declarative form is to supply the missing initial subject. Yet, in doing so, the <u>be</u>-sentence becomes "passive" without moving the subject to the end of the sentence. In <u>be done</u>, <u>done</u> surely cannot be a predicate adjective, for it does not describe <u>you</u>, but predicates an action to be performed by <u>you</u>. If interpreted as <u>You are done</u>, the same objections hold. (This topic will be discussed further later on.) In the first triple, the second and third verb expressions refer to exactly the same time period, yet one is present perfect and the other is past perfect; hence, the only difference (other than form) must be that <u>having</u> implies continuation in the past (progressive), and <u>had</u> implies completed action in the past--but both imply essentially the same time before the verb in the final clauses. In the second triple, as in the first, the second sentence implies "passive" past continuation. Yet, the third example, which

differs from the second only in that completed action (past "passive")
is implied, refers to the same time period. Thus, the first sentences
in the triples are equivalent in time, mood, and voice! The second
sentences in the triples are also equivalent in present progressive
aspect, but having (in form) is present perfect, while being is
"passive," yet both refer to the same time meaning! Likewise, the
third sentences in the triples mean exactly the same things, yet one
is past perfect, while the other is past "passive." The only conclusion
that can be reached is that the first, second, and third sentences in
the first triple are equivalent to the first, second, and third sen-
tences, respectively, in the second triple! Continuation (-ing) cannot
be added to past tense forms of have and be; thus, it is impossible
(in form) to express either a past perfect continuation or a past
"passive" continuation (third examples): if such continuation is
desired with these time periods, it must be expressed with the present
progressive aspect plus past perfect (with have) and past "passive"
(with be). Since the meaning of the second and third sentences in each
triple are equivalent, the distinction between continuing and completed
action is, paradoxically, abolished. Hence, the so-called pasticiple
forms, having done and being done are not only true verbs (not modifiers),
but also are logically, semantically, and (almost) syntactically
equivalent!

The relationship of the passive voice and the pasticiple functioning
as a so-called predicate adjective is easily demonstrated in most cases.
For example, in You were tired, tired is said to be a pasticiple modi-
fying you. This kind of analysis ignores the implication of a subject
(something or someone) as in

$$\underline{\text{(Something)} \ \underline{\text{tired}} \ \underline{\text{you}}.} \qquad\qquad (3.182)$$
$$\overset{\wedge}{t_1} \qquad 2^R \qquad t_2$$

Thus, by application of the well-known passive transformation, the two

noun phrases switch positions, the proper tense (implied by tired)

of be is inserted before the verb, and by precedes the exchanged last

noun phrase:

$$\underline{\text{You}} \ \underline{\text{were tired}} \ \underline{\text{(by something)}}. \qquad\qquad (3.183)$$
$$t_2 \qquad\ ^{*R}_{2} \qquad\ \overset{\wedge}{t_1}$$

Similarly related forms are You were tired (by yourself) and You tired

yourself; the passive is ambiguous, but the active could be a para-

phrase of the passive in one of its meanings.

A similar, but more complicated, analysis can be seen when

other linking (copula-like) verbs occur. In You became tired, there

is again a passive, for, as noted earlier, become is regularly passive

in meaning. The meaning of You came to be tired (because of overwork)

is obviously passive because of the presence of the passive infinitive

to be tired. Came is not carrying its usual action connotation; it

seems roughly to be equivalent to

$$\underline{\text{You}} \ \underline{\text{gradually}} \ \text{(became)} \ \underline{\text{tired}}. \qquad\qquad (3.184)$$
$$a \qquad F^2 \qquad\qquad F^1$$

Thus, came seems to be functioning adverbially, since became can be

substituted for gradually above. But substitution is unreliable.

Became is a quasi-auxiliary, as will be shown presently. Converting

You came to be tired (because of overwork) to active voice is not a

straightforward procedure, for the following form is possible, where

one phrase only has been moved, providing a form that is still

grammatical: (Because of overwork) you came to be tired. If you
had been moved to the end of the sentence (regular passive transfor-
mation procedure in reverse), an ungrammatical sentence would have
resulted. The paraphrased because provides a solution. The sentence
is a causation sentence, as in Overwork caused you to become tired,
which is still passive; but this can now be converted to active voice,
and the auxiliary become disappears in the process: Overwork caused
you to tire. Caused may be removed from the latter sentence to
produce the semantically equivalent sentence

$$\underset{t_1 \qquad 2^R \qquad t_2}{\text{Overwork tired you.}} \qquad (3.185)$$

Thus, You were tired and You became tired are of the same logical form.
Therefore, a possible final formulation for You came to be tired
(because of overwork) is

$$\underset{t_2 \qquad *2^R \qquad \widehat{t_1}}{\text{You became tired (because of overwork).}} \qquad (3.186)$$

However, there is something unsatisfying about the above solution.
If someone tired, it was due to some reason such as overwork. But work
is a verb, as is seen in Working (too much) tired him, as proved
earlier in this paper. This sentence, again, suggests causation. For
this reason, perhaps You became tired should be interpreted thus:

$$\underset{(\ \widehat{t_1} \qquad \widehat{2^R} \qquad \widehat{t_2}\ ) \rightarrow (t_2 \qquad S\ )}{\text{(Since = because)(someone) (overworked) (you), you tired.}} \qquad (3.187)$$

Deletion of the "understood" circumflexed elements leaves what seems
to be equivalent to an aF logical form (i.e., t_2 S = aF); but for the
above reasons in the last two discussions, it would be wrong

to interpret the two cited sentences, without considering the "under-stood" elements, as

$$\underline{\text{You}}\ \underline{\text{were tired}} \qquad\qquad (3.188)$$
$$\ \ \text{a} \qquad \text{F}$$

and

$$\underline{\text{You}}\ \underline{\text{became tired}}, \qquad\qquad (3.189)$$
$$\ \ \text{a} \qquad\ \text{F}$$

for these logical interpretations accord too closely (but not exactly) with the traditional idea of predicate adjective modification, which has already been proven false in these sentences.

Similar problems occur with other linking verb constructions. Look, seem, and appear are all passive ordinarily, i.e., when they occur with other verbs or so-called predicate adjectives. In a sentence such as

$$\begin{array}{l}\text{appears}\\ \text{Janet seems worn out (= tired)},\\ \ \ \ \ \ \ \text{looks}\end{array} \qquad (3.190)$$

the verb worn out is not functioning as a predicate adjective as is traditionally maintained; it is a true verb in the passive voice. Again, there is an implied subject. Since there are no active forms of these verbs (without semantic shift), the passive forms are often, confusingly, called active. But this notion can be dispelled by noting an obvious passive expression is "understood" and this fact may be proven by inserting a subject:

$$\begin{array}{l}\text{appears}\\ \text{Janet seems }\underline{\text{to be worn out}}\text{ (to me)}.\\ \ \ \ \ \ \ \text{looks}\end{array} \qquad (3.191)$$

Although with <u>looks</u>, <u>to be</u> seems somewhat inappropriate stylistically,
it can and does occur. It is necessary to come up with another
(active) verb which is more or less synonymous to these verbs, such as

$$\text{I think Janet } \begin{Bmatrix} \text{appears} \\ \text{seems} \\ \text{looks} \end{Bmatrix} \text{(to be) worn out.} \qquad (3.192)$$

However, the second clause is still passive, as the possible insertion
of <u>to be</u> indicates. One may not use the regular passive transformation
(in reverse) here to convert to active voice. All that appears to
be needed is (1) simple deletion of the passive verb (plus <u>to be</u>, if
it occurs), (2) insertion of the proper tense form of <u>be</u>, and (3) con-
version to active voice of the true verb. Doing these things produces

$$\text{*I think Janet is wore out.} \qquad (3.193)$$

The result is ungrammatical because it is still passive, though one
often hears such an utterance lacking the pasticiple inflection (<u>wore</u>
for <u>worn</u>). One more step is needed: supplying still another "under-
stood" element, an implied subject of the second clause. When this is
done, the two noun phrases switch positions (as in the more normal,
reversed, passive transformation). The result is a complex proposition
wherein the second proposition is functioning as a kind of direct
object:

$$(\underline{\text{I think}}) \text{ (that) } (\underline{\text{someone}}) \text{ wore out } \underline{\text{Janet.}} \qquad (3.194)$$

Here, I think carries one of its common meanings, that of uncertainty, and thus replaces the uncertainty verbs appear, seem, and look. When one says Janet seems worn out, it obviously means that she seems that way to someone; and if she is worn out, then something or someone (perhaps she herself) must have caused her condition. Stylistically, the passive form is more desirable if one wishes to focus on Janet and her condition, rather than on who has observed it or conjectured about it.

Conlin cites the traditional idea that past participles (pasticiples) "may take adverbial modifiers but not complements" and cites the following examples as proof:[29]

Father appears very excited.	(3.195)
Father appears excited tonight.	(3.196)
Father appears excited at the good news.	(3.197)

He further says that "these italicized word groups are participial (= pasticipial) phrases used in the predicate complement function."[30] Now, the third example, even on traditional theory, can hardly be adverbial! In addition, "predicate complement function" is meaningless, since the intention is to indicate noun modification. Then, what is a predicate complement? Examples (3.194) and (3.105) can easily be disposed of. Following the line of reasoning used earlier, they are symbolized in the active voice in the following manner:

$$
\text{(I think) (that)}
$$
$$
\widehat{u_1} \quad \widehat{_2}s
$$
$$
\text{(something) (has...) quite...excited father.} \qquad (3.198)
$$
$$
(\quad \widehat{t_1} \qquad\qquad _R2 \qquad _2R^1 \qquad t_2 \quad)
$$
$$
u_2 \ (= \text{"it"})
$$

Again, it is obvious that something or someone has caused Father to be
excited; and _appears_ implies an unnamed observer who _is_ unnamed in the
passive precisely for the reason that the speaker (writer) wishes to
focus on _Father_. As indicated in the paraphrased part, the true verb
excited may be past definite tense or present perfect tense, but it
is not an adjective modifier. _Quite_ has been substituted for _very_
for stylistic reasons; _very_ may occur, however: I think that something
has father very excited. The second sentence, symbolically, is

$$(I \; think)(that) \; (something)(has...) \; excited \; father \; tonight. \qquad (3.199)$$

$$\hat{u}_1 \quad 2^S \qquad (\quad \hat{t}_1 \qquad 3^R \qquad t_2 \quad t_3 \quad)$$

$$u_2$$

$$(= \text{"it"})$$
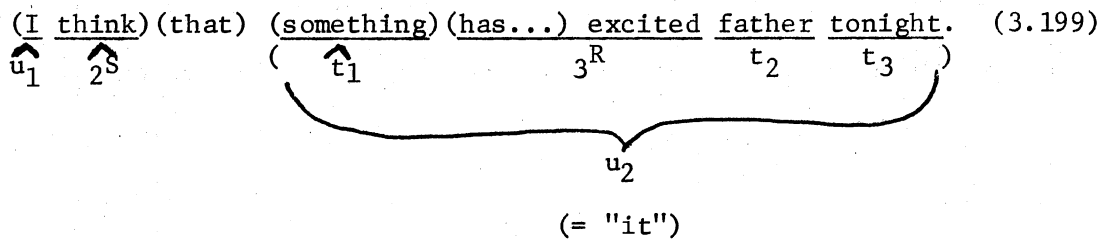
Unlike _quite_, _tonight_ is not an adverbial intensifier; _tonight is a time_
expression that refers to the time when father became excited (by
something); the whole clause is affected, not just the verb; strangely
enough, _tonight_ can occur almost anywhere in the sentence except after
excited which traditionalists would claim it modifies. The verb is in
the present perfect tense; it is not a modifier.

Conlin's third sentence example is a bit more complicated because
of the added proposition implied by the predicate _good_. On the other
hand, the analysis is also made simpler because the psychological
subject is overtly shown; it is _at (= by) the news_. The active voice
formulation, therefore, is really quite straightforward:

$$(I \; think) \; (that) \; the \; good \; news \; (has) \; excited \; father. \qquad (3.200)$$

$$\hat{u}_1 \quad 2^S \qquad (\quad F \quad a \;) \qquad 2^R \qquad t_2$$

$$t_1$$

$$u_2 \; (= \text{"it"})$$

The true verb excited may be either in the past definite tense or in the present perfect tense; it is not an adjective modifier. There is no adverbial expression at all.

All of these examples of Conlin's are transformations from the active to the passive voice, for to be can be inserted after appears and before excited in each instance.

The pasticiple functioning as an objective complement is equally misconceived. The underlined expression in the sentence below is said to be an objective complement headed by a pasticiple:

$$\text{The Democrats wanted Nixon } \underline{\text{(to be) fired}}. \qquad (3.201)$$

The possible insertion of to be, without meaning change, strongly suggests that this is a passive sentence where the copula may be overt or may be deleted. Though the method used here is not employed by them, the fact that such a sentence is a disguised passive is well known to some structural and transformational grammarians.[31] Converting the above sentence to active voice (but not by the reverse of the usual passive transformation) produces

$$\text{The Democrats wanted to fire Nixon.} \qquad (3.202)$$

In the original formulation, the sense of just who should fire Nixon is ambiguous, but a possible, "loose" interpretation is suggested by the second formulation. Most grammarians would agree that identical noun phrase deletion has taken place in the second example. This is also supported by the subjunctive form of the sentence:

$$\underset{u_1}{\underline{\text{The Democrats}}} \quad \underset{2^S}{\underline{\text{desired(=wanted)}}} \quad \text{that} \quad (\underset{t_1(=u_1)}{\underline{\text{they(=Democrats)}}} \quad \underset{2^R \ t_2}{\underline{\text{fire Nixon}}}.)$$

$$u_2 \ (= \text{"it"}) \qquad (3.203)$$

A stricter, more likely interpretation (in view of Watergate) suggests that <u>they</u> refers to someone other than (or in addition to) <u>the Demo-crats</u> (e.g., <u>Congress</u>). In any case, it is easy to see that <u>they fire</u> is simply the active form of <u>to be fired by them</u>. Hence, <u>(to be) fired</u> is merely a passive voice verb, not an objective complement; and it is the main verb in its clause.

The same analysis, essentially, applies when the "direct object" of the first clause is an infintive which is said to be complemented by a pasticiple. For example, the sentence

$$\text{They wanted } \underline{\text{to have Nixon fired}}$$
$$\text{(by themselves and/or someone else),} \qquad (3.204)$$

is exactly logically equivalent to (3.203). Once again, the essential passive equivalence has been shown to exist between the passive infin-itive (<u>to be fired</u>) and the "present perfect passive infinitive" (for want of a better term)--i.e., <u>to have fired</u>.

Mandative and Causative Usages

Unlike the above example, the subject of the second clause may not always be inferred from the first clause. Such a sentence is the following where the psychological subject has been parenthetically inserted:

$$\underline{\text{Dad}} \quad \underline{\text{had}} \quad \underline{\text{a house}} \quad \underline{\text{(to be) built}} \quad \underline{\text{(by them)}}. \qquad (3.205)$$

$$\left[u_1 \quad 2^S : (t_2 \qquad \underset{2}{*}R \qquad t_1 \quad) \right]$$

$$\underbrace{}_{u_2 \ (= \ "it"?)}$$

Thus, the sentence <u>Dad had a house built</u> is simply a transformation of the above formula wherein the passive copula marker of the true verb

and the unnecessary subject have been deleted. The numeral subscripts

on the t's have been kept in the order of the active form to provide

the added support shown in the active sentence below:

$$\begin{array}{c} \underline{\text{Dad}} \ \ \underline{\text{had}} \ \ \ \underline{\text{them}} \ \ \underline{\text{(to)}} \ \underline{\text{build}} \ \ \underline{\text{a house}}. \\ \left[u_1 \ \ 2^S : \ (\ t_1 \ \ \ \ 2^R \ \ \ \ t_2 \ ) \right] \\ \underbrace{\hspace{4cm}} \\ u_2 \ (= \text{"it"?}) \end{array}$$
(3.206)

A new logical sign, the colon (:), has been introduced because, as has

been suggested earlier on several occasions (e.g., pp. 166-171), it is

not at all apparent that the second clause should be interpreted as

a "kind of direct object," but this view was difficult to substantiate

earlier. A comparison to the subjunctive form of this sentence

illustrates this fact:

$$\begin{array}{c} \underline{\text{Dad}} \ \underline{\text{asked}} \ \underline{\text{that}} \ \ \ \underline{\text{they}} \ \underline{\text{build}} \ \underline{\text{a house}}. \\ \left[u_1 \ \ 2^S \ \ \ : \ \ \ (\ t_1 \ \ 2^R \ \ \ t_2 \ ) \right] \\ \underbrace{\hspace{4cm}} \\ u_2 \ (= \text{"it"?}) \end{array}$$
(3.207)

The word _that_ overtly performs the connective function of the colon.

It will be noticed that _had_ has been changed to _asked_ because, other-

wise, an ungrammatical sentence would have resulted. Depending on

context, _had_ seems capable of expressing both mild and strong conno-

tations. _Had_, for example, can connote the semantic forces of verbs

such as _asked_, _requested_, _demanded_, _ordered_, as will be seen below.

The necessary verb change above further supports the idea that

the second clause is not an object in the usual sense, even on the

view that the object is simply an amplified explanation or extension of

"it." The problem may be solved when one considers the fact that _have_

is used in several ways: (1) as a verb to indicate possession,

(2) as an auxiliary, and (3) as a substitution instance for another

"understood" verb (as above). It may be used in still a fourth way:

(a) as a combination of (1) and (2)--cf. <u>Have you any money?</u> with

<u>Do you have any money?</u>--or (b) as a combination of (2) and (3). It

is this latter case which occurs in <u>Dad had a house built</u>, for the

real, complete verb expression is <u>had built</u> (as in <u>They had built a</u>

<u>house</u>), the passive of <u>had build</u>, which is a shortened version of the

earlier past perfect form <u>had builded</u> (common as late as Samuel

Johnson's time). Thus, <u>had</u> is doing double duty, as seen in the

alternative statement, <u>Dad had ordered them to build a house</u>, in

which <u>had ordered</u> is obviously a past perfect tense of the verb. Thus,

a form such as

$$\underline{Dad}\ \underline{had}\ \underline{ordered}\ \underline{that}\ \ \underline{they}\ \underline{build}\ \underline{a\ house} \qquad (3.208)$$

$$\left[\begin{matrix} u_1 & 2^S & : & \underbrace{(t_1 \quad 2^R \quad t_2)} \\ & & & u_2\ (=\ \text{"it"?}) \end{matrix} \right.$$

proves that in <u>Dad had a house built</u> the word <u>had</u> is both an auxiliary

and a substitution instance of another verb such as the pasticiple

<u>ordered</u>; and <u>built</u> is also a pasticiple completing the "understood"

past perfect expression <u>had build(ed)</u>, where <u>had</u> is inferred from the

first clause. It is the meaning of the verb which determines whether

what follows can be interpreted as a direct object for which "it"

substitution may be adduced, and in the above formulations, it still

seems possible to make such a substitution. However, such a substi-

tution could not be inferred in a sentence such as <u>He ran (in order)</u>

<u>to (so that he might) escape</u>, for one cannot say <u>He ran it</u> in this

instance. It may still be a bit arbitrary, but the present writer

prefers to view such a sentence and the ones above (and many others

discussed earlier) as containing a second clause which is simply

tacked on in a kind of compounding operation; thus, these clauses

need not be divided into so-called "objectival" and "adverbial"

modifications of the first clause; they may be considered as a single

form, a sentence pure and simple, as analyzed by some transformational

grammarians.

That second clauses in had ordered (etc.)-sentences are not

necessarily objects seems conclusively proved when one considers that

even on traditional theory, as Conlin says, "the contrast between a

participial modifier and a participle used as an objective complement

may be seen in the following. . . sentences."[32]

He had my coat mended. (3.209)
He had my mended coat. (3.210)

Sentence (3.209) may be paraphrased as

He had (requested) my coat (to be) mended (by her), (3.211)

from which, by deletion, the original sentence may be obtained. The

verb had is functioning both as an auxiliary and as a substitution

instance of a verb such as requested, as can be proven by perusal of

the same sentence in subjunctive form:

He requested that she mend my coat, (3.212)

where had may not substitute for requested, for an ungrammatical

sentence would result; but had may be inserted as an auxiliary to

requested, proving that had requested, a past perfect tense form, is

what is inferred in the first clause. However, unlike the sentence

Dad had a house built, had is not an implied auxiliary to mended,

and the resultant second clause is not amenable to "it" substitution.

The difference is entirely due to verb choice substitution for <u>had</u>

in the first clause, as the following pairs illustrate:

Dad (had) ordered (that) a house (had to be) built. (3.213)
*He (had) requested (that) my coat (had to be) mended. (3.214)

Dad (had) ordered (that) a house (must be) built. (3.215)
*He (had) requested (that) my coat (must be) mended. (3.216)

The first sentence in each pair, (3.213) and (3.215), is grammatical

because both sentences <u>could</u> be used in a social context where the

house, in fact, had actually been built; but the second sentence in

each pair is ungrammatical for <u>had requested</u> is opposite in meaning

to <u>had to be + (any infinitive)</u> because the latter is a type of order

or command. That is, <u>He had requested</u> does not imply, and could not

imply, that the coat was, in fact, mended when the whole sentence

meaning, or rather non-meaning, is considered. Therefore, the second

sentence in each pair, (3.214) and (3.216), makes no sense because

there is no semantic (and, hence, no grammatical) unity between the

first clause and the second clause; thus, the second clause may not

function as a direct object of the first clause because there is no

logical connection existing between them. So, the original conclu-

sion must be correct, that the source of <u>mended</u> (formally speaking)

is not a past perfect form, but a passive infinitive form, which can

be analyzed in the following fashion:

He had (requested) my coat (to be) mended (by her). (3.217)
$$\left[u_1 \quad {}_2{}^S \quad :(t_2 \quad {}_2^*R \quad {}^*\!t_1) \right]$$
$$u_2$$

Therefore, u_2 simply labels a "tacked-on" proposition which <u>completes</u>

the first clause, but is not interpreted as "a kind of direct object."

The above result is a further proof of the contention made many

times in this paper that it would be better not to talk of objects

at all, for the idea is greatly misused as a conceptual device and is

unnecessary anyway. The term <u>has</u> been used in this work because of

its familiarity to students and teachers of grammar. If the verb

choices above had been <u>had ordered</u> and <u>had to be mended</u>, it might

still be true that the order was not complied with, but at least the

possibility of its having been complied with exists. These semantic

problems are avoided in the subjunctive form of the sentence, <u>He</u>

<u>requested that she mend my coat</u>, where the uncertainty implied in

<u>requested</u> is not obviated by the neutral, unamplified <u>mend</u>; the more

usual infinitive form used nowadays, <u>He requested her to mend my coat</u>,

maintains the same uncertainty and neutrality.

While the above discussion illustrates that the idea of a pasti-

ciple functioning as an objective complement is misconceived, it

cannot be said, exactly, that a pasticiple cannot function as an

adjective modifier of a direct object in Conlin's second sentence,

for <u>He had my mended coat</u> is equivalent to the following sentence

(supplying the missing subject):

He had my coat (which she (had)) mended. (3.218)

The traditional idea that the relative clause is a kind of adjective

modifier of <u>coat</u> is intuitively attractive; thus, if one deletes

everything in the relative clause except the verb, and moves the verb

directly in front of <u>coat</u>, it seems even more obvious that the verb is

functioning as an adjective. There is nothing wrong in calling such

overt words and functions adjectives and adjectival as long as one

recalls that they are not, logically, separate parts of speech or

functions (verb vs. adjective); verbs and adjectives are both predi-

cates and may be derived from each other by transformations. As

the above relative formulation indicates, mended may be derived from

either the simple past definite tense or the past perfect tense.

If one merely moves the past tense verb (or pasticiple) to the front

of coat after deletion of the parenthetical portion, this action in

no way changes the basic predicative function of mended; it is there-

fore not modifying coat in the traditional definitional sense of

"modification" (i.e., it does not describe something about the coat,

but something that was done to the coat). "Logical predication"

avoids the problems of these admittedly overlapping nuances (i.e.,

verbal "action" vs. verbal "description"). The proper logical

analysis is:

$$\underset{t_1 \ _2{}^R}{\underline{\text{He had}}} \quad \underset{(\underbrace{\qquad\qquad F \qquad\qquad a}_{\displaystyle t_2 \ (= \text{"it"})}}{\underline{\text{my}...\text{mended}...\text{coat.}}} \qquad\qquad (3.219)$$

Here, had indicates simple possession, which was not at all meant in

the earlier "objective complement" sentence where had occurred after

coat; it has no connection whatever with the verb (or pasticiple)

in the (relative) second clause. Moreover, "it" substitution is more

obviously possible (He had it), thus fulfilling the traditional

intuition about the validity of "objectivalhood."

The transformation involved, incidentally, in moving mended

from the relative clause to the left of coat is nearly identical to

the well-known "nominalization transformation" described in many

generative grammars, e.g.,

> The enemy had destroyed the fortress.   (3.220)
> The enemy's destruction of the fortress was complete.   (3.221)

It was suggested in Chapter II that so-called adjective complement

modifiers of a direct object were not such at all. In some instances,

at least, the underlined portions in the construction verb (+ object) +

adjective is equivalent to a verb expression. This can be illustrated

by the following pair:

> He had them make the horse gentle.   (active)   (3.222)
> He had the horse made gentle by them.   (passive)   (3.223)

The word made in (3.223) would usually be called by traditional analysts

a pasticiple functioning as an adjective modifier, of the object horse.

This is ridiculous, for the same traditional analysts would claim that

make in (3.222) is functioning as a verb whose subject is them; and

them is also functioning as an object in the first "clause." This

latter analysis is based on the following construction which is like-

wise interpreted:

> He had them to make the horse gentle.   (3.224)

However, the subjunctive form, once again, shows that the plural

pronoun is, logically, only a subject of the last part of the sentence:

> He ordered (= had) that they make the horse gentle.   (3.225)

They replaces them when the infinitive form above is not used. Unlike

some had-sentences which have been discussed previously, in this

sentence <u>had</u> is not grammatically connected with the verb expression,

<u>make gentle</u>; it does, however, carry the semantic notion of a completed

act (<u>made gentle</u>) over into the second "clause," for the above passive

may be transformed to

He had the horse gentled by them,   (3.226)

where <u>made</u> is deleted and a past tense inflection is suffixed to

<u>gentle</u>. This conclusion is further supported by the following para-

phrase to which the original passive and the transformed adjective-

to-verb sentences may be compared:

He saw to it that the horse <u>was gentled</u> by them.   (3.227)
He saw to it that the horse <u>was made gentle</u> by them.   (3.228)
He had the horse <u>made gentle by them.</u>   (3.229)

$$\left[u_1 \; {}_2S \; : \left(\quad t_2 \qquad \underbrace{{}_2^{\not{}}R \qquad t_1} \quad \right) \right]$$
$$u_2$$
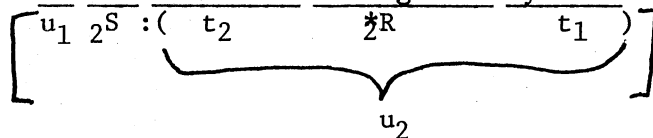
The active form of (3.229) is, of course, <u>He had them (to make) gentle</u>

<u>the horse.</u> The logical structure is, thus, the same in all three last

"clauses" in the examples above. With respect only to the last clauses:

(1) the second passive is an expression of the first passive in that

the second is a compound verb where the <u>-ed</u> meaning in <u>gentled</u> has

been transferred to the added word <u>made</u>; (2) the third clause is a

deletion instance of the unnecessary copula in the second clause, for

the past tense meaning and the passive meaning are both implied in <u>made</u>.

Therefore, the true verb is <u>gentle</u>, and <u>made</u> is a quasi-auxiliary,

for it does carry the semantic notion of "compel." Thus, <u>made</u> is not

a pasticiple modifying <u>horse</u>, for <u>made</u> tells what the horse was

compelled to <u>do</u>; it does not tell something <u>about</u> (i.e., describe) the

horse. Grammatically speaking, in addition to being a quasi-auxiliary, made is the passive form of the verb make functioning with the auxiliary was (overt in the second sentence, covert in the third sentence). Even made can be deleted by further transformations to the active voice (as noted above) or to the passive voice: He had them gentle the horse / He had the horse gentled by them.

Although gentle, without an auxiliary, is seldom used as a verb, it does occur occasionally. What if there is no verb form counterpart for an adjective? Can it be used as a verb? Yes, it can; but it must have a quasi-auxiliary functioning with it. Sometimes a nearly synonymous one-word substitution instance can be cited for added support; other times, unfortunately, such a word has simply not been developed (or it has been lost) in the evolution of the language. Because no verb form exists in some cases, traditional (and other) grammarians, ignoring logic, complicate the situation unnecessarily by multiple classifications. Conlin cites the following two convenient examples:[33]

> The news made me happy.   (3.230)
> I was made happy by the news.   (3.231)

Of (3.230), he says, "the adjective happy is a complement, not of the subject, . . . , but of the object me."[34] Of (3.231), he says, "the adjective is used as a complement after a verb in the passive voice."[35] In other words, happy modifies me (= I). Logically, however, happy is not modifying (describing) a condition of me (I); the sentences clearly refer to the action of making happy--i.e., my happiness deriving from hearing the news, which is quite another thing. Therefore, the logico-syntactic structure of the active voice forms, dictated by

the meaning, is:

$$\underline{\text{*The news}}\ \underline{\text{happied}}\ \underline{\text{me}}.\qquad\qquad (3.232)$$
$$t_1 \qquad\quad _2R \qquad t_2$$

$$\underline{\text{The news}}\ \underline{\text{made}}...\underline{\text{me}}...\underline{\text{happy}}.\qquad (3.233)$$
$$t_1 \qquad\qquad\quad t_2 \qquad _2R$$

Sentence (3.232) is ungrammatical only because $\underline{\text{happy}}$ has no verb $\underline{\text{form}}$.
The same logical structures apply to the passive voice forms:

$$\text{*}\underline{\text{I}}\ \underline{\text{was happied}}\ \underline{\text{by the news}}.\qquad (3.234)$$
$$t_2 \qquad \text{*}R \qquad\qquad t_1$$

$$\underline{\text{I}}\ \underline{\text{was made happy}}\ \underline{\text{by the news}}.\qquad (3.235)$$
$$t_2 \qquad \text{*}R \qquad\qquad t_1$$

These sentences are, thus, simple S-V-O sentences! This analysis is
supported by substituting a synonymous one-word verb form for the
ungrammatical *happied and the grammatical made happy:

$$\underline{\text{The news}}\ \underline{\text{gladdened}}\ \underline{\text{me}}.\qquad\qquad (3.236)$$
$$t_1 \qquad\qquad _2R \qquad t_2$$

$$\underline{\text{I}}\ \underline{\text{was gladdened}}\ \underline{\text{by the news}}.\qquad (3.237)$$
$$t_2 \qquad\quad \text{*}R \qquad\qquad t_1$$
$$\qquad\qquad _2$$

$$\underline{\text{The news}}\ \underline{\text{made}}...\underline{\text{me}}...\underline{\text{glad}}.\qquad (3.238)$$
$$t_1 \qquad\qquad\quad t_2 \quad _2R$$

$$\underline{\text{I}}\ \underline{\text{was made glad}}\ \underline{\text{by the news}}.\qquad (3.239)$$
$$t_2 \qquad\quad \text{*}R \qquad\qquad t_1$$
$$\qquad\qquad _2$$

A Related Digression

Sometimes there is no verb $\underline{\text{form}}$ for the adjective nor a synonymous
one-word substitute verb. This does not alter what has been shown
above, however. It is logic, not form, in these cases which should
dictate the analysis. For example, the word $\underline{\text{stupid}}$ is functioning as
a logical predicate in both sentences in the following pair cited by

Conlin, but the propositions are different:[36]

<div align="center">

They called the stupid man.   (3.240)

They called the man stupid.   (3.241)

</div>

Sentence (3.240) is like many analyzed previously. It breaks down into two propositions, simplified, which may be combined linearly into one relativized sentence:

$$\left[\begin{array}{cccccc} \underline{\text{They}} & \underline{\text{called}} & \underline{\text{the man}} & \text{(who was)} & \underline{\text{stupid.}} \\ t_1 & {}_2 R & (\quad a & & F \quad) \end{array}\right] \qquad (3.242)$$

$$t_2 \ (= \underline{\text{him}})$$

All that is obviously necessary is to delete the unnecessary copula and the redundant pronoun.

Sentence (3.241) is different in three ways from the first: (1) sentence meaning, (2) order, and (3) meaning of called. The last point destroys Conlin's comparative argument concerning the two functions of stupid, for (3.240) states that there was a stupid man whom they called, i.e., yelled at, telephoned, etc. (The man was assumed intrinsically to be stupid.) Sentence (3.241), however, implies that the man was called (i.e., labeled, classified, etc.) stupid for some reason, but was not necessarily stupid in fact. (Perhaps they were merely maligning him, for example.) Thus, the main predication is called stupid in (3.241), for called by itself makes no sense otherwise in the context. That is, if one were to ask them what they called him (what they labeled him), they might answer with one word—stupid. Nevertheless, the sentence is ambiguous, for it may mean that the word itself they used for him when they talked to him, called him, and so on, was "stupid"—as in We call him by that name—

"stupid." This is an example of metalinguistic usage--using language
to refer to or talk about language. If the metalinguistic meaning is
ignored (i.e., only the meaning of, not the word itself, is meant),
then the proper logical analysis of this sentence (and stupid) is,
in the active and passive voices, respectively, as follows:

$$\underline{\text{They}}_{t_1} \underline{\text{called...the man...stupid.}}_{t_2 \quad 2^R} \qquad (3.243)$$

$$\underline{\text{The man}}_{t_2} \underline{\text{was called stupid}}_{\cancel{2}^R} \underline{\text{by them.}}_{t_1} \qquad (3.244)$$

This analysis is supported by the following paraphrase,

$$\text{They considered the man } \underline{\text{to be stupid}}, \qquad (3.245)$$

where the infinitive in the underlined phrase is meaningless; only
stupid predicates anything. If one argues that to be stupid indicates
the state of being of the man, the sentence would be false in this
context; for the meaning is that they considered him stupid, not that
he was, in fact, stupid. Considered makes no sense unless one knows
just what was being considered (thought over); hence, considered and
stupid are inextricably intertwined as a single unit idea. There are
not the two propositions: They called the man and The man was stupid
(false). If one insists that there are two (combined) predications,
then in order for the sentence to make sense, they would have to be
They called the man and *They called stupid, which further supports
the above analysis.

The last few discussions have been, admittedly, a bit digressive.
They were included because some of them did employ usages and forms
that have been confounded with pasticiple usage. They further show

the essential sameness of sentences which have always been regarded as
separate types demanding different analyses.

Absolute Participles and "Pasticiples"

Definitional Chaos Once More

Participles and pasticiples are said to function as "sentence
modifiers." It was shown in the section on gerunds and participles
that such a (structural grammarian's) definition completely destroys
any effectiveness the definition of a participle as an adjective
modifier may have had. Thus, the definition of a pasticiple (past
participle) as a past time adjective modifier is also destroyed.
Traditionalists classify "sentence modifiers" as "absolute construc-
tions." It is to their credit that traditionalists, at least, do not
classify the participle (or pasticiple) in such a construction as
adverbial, as do the structuralists. Traditionalists do not clarify
things much, however, for they claim that while absolute constructions
cannot be classified as regular parts of speech, such expressions,
nevertheless, are often not fully independent of the main clauses to
which they are attached, as the name "absolute" implies. Some analysts
call such absolute expressions "parenthetical," meaning deletable, but
deletable seems sometimes to mean appositional, etc. There are several
types of absolute expressions, but what can be said of participles
and pasticiples in such expressions also applies to most of the others.
Since the participle as absolute was discussed earlier, the emphasis
in this section will be mostly on the pasticiple as an absolute, for it
provides the most interesting examples.

Sentence Modification Versus Tense, Mood, and Aspect

Conlin cites the following sentence as containing a pasticiple expression (underlined):[37]

His work finished, the President left for Gettysburg.   (3.246)

Now, there are two possible ways in which to view the meaning of this sentence. The first way is merely to consider the first clause as essentially independent of the second clause (the traditional view). If this is the case, then how does it differ in any important sense from another of Conlin's examples,[38]

Driven by the wind, the dust spread over the city,   (3.247)

where it is said that "the participial phrase may, however, precede the noun it modifies"?[39] (Author's emphasis.) Both (3.246) and (3.247) could be interpreted as simple, transformationally reduced sentences:

    The President's work (was) finished, and he left for   (3.248)
        Gettysburg.
    The dust (was) driven by the wind, and it spread over   (3.249)
        the city.

If, traditionally, driven is said to modify wind, then why is finished not said to modify work? Position alone, apparently, is the criterion; but this won't work either, for Conlin cites as a pasticipial the following (underlined) expression:[40]

    The snow, melted by the rains, helped to flood the river,   (3.250)

where melted is said to modify snow. This sentence, too, could be interpreted as a transformationally reduced sentence:

> The snow, (which) <u>(was) melted</u> by the rains, helped to   (3.251)
> flood the river,

which is merely another form of the compound (active) sentence as is

true in the previous two re-worded (passive) sentences:

> The rains <u>melted</u> the snow, and they helped to flood the   (3.252)
> river.
> The wind <u>drove</u> the dust, and it spread over the city.   (3.253)
> The President <u>finished</u> his work, and he left for
> Gettysburg.   (3.254)

The pronouns in the second clauses, of course, can be replaced by the

proper referent from the first clause if there is any question of

ambiguity. These examples thus prove: (1) that the distinction

between pasticipial modifier expressions and pasticipial absolute

expressions is not only ill-defined, but non-existent in such cases;

(2) that the so-called pasticiples are really transformational deletions

of the copula from passive verb formulations, and are therefore not

modifiers in the <u>dust-</u> or <u>snow-</u>sentences any more than in the <u>Presi-</u>

<u>dent-</u>sentence; and (3) that they <u>could</u> all be interpreted as embedded

cases (compound and relativized sentences).

Since the writer (or speaker) of (3.252-3.254) does, apparently,

see a close connection between the first and second clause in each

instance, and since in each instance the action of the second clause

depends on the action of the first, then it might be better to view

all three as implicational in form:

> Since <u>the President</u> <u>had finished</u> <u>his work,</u>
> (t_1 2^R t_2) $\longrightarrow$
>
> he left for Gettysburg.   (3.255)
> (X   )

Since the wind had driven the dust,
(t_1 2^R t_2) $\longrightarrow$

it spread over the city.
(X)   (3.256)

Since the rains had melted the snow,
(t_1 2^R t_2) $\longrightarrow$

it helped to flood the river.   (3.257)
(X)

This last analysis, (3.255-3.257) seems preferable, if one believes

that, in some sense, the first clause does, indeed, "modify" the

second clause--as is clearly the motiviation implied in the term

"sentence modifiers." Whether one chooses the embedded or implica-

tional interpretations makes no difference as far as determining the

sources of the pasticiples is concerned. They are not pasticiples at

all; in the first analysis, (3.252-3.254), they are passive verbs; in

the second, (3.255-3.257), they are past perfect tense verbs with the

same inflectional suffixes.

That the past perfect choices in the above sentences are the

probable sources, logically, of the verb forms, can be proven (some-

what paradoxically) by noting one of Stageberg's "senence modifier"

examples:[41]

The guests having departed,
we resumed the normal household routine.   (3.258)

In appearance, the verb portion of (3.258) seems to be present perfect

for the form is have + -ed. However, like the sentences cited in the

previous paragraph, this sentence may be viewed as an implicational

one:

Since the guests had departed, we resumed. . . .   (3.259)

The past perfect tense occurs just as it did in the three previous

cases, and it makes sense in this context. Why, then, use _having_?

When one considers the fact that none of the three previous cases had

-ing (in any of their versions) in the first clause, one must assume

that progressive continuation was not meant; consequently, since

having does occur here (in the first version), continuation must be

meant, yet it is missing in the implicational form above. There are

two possible answers: (1) that _having_ is replacing the nonexistent,

therefore, ungrammatical, *_hadding_; or (2) that the meaning is

$$\underbrace{\text{Since } \underline{\text{the guests}} \text{ have (just) departed,}}_{(\quad\quad a \quad\quad F \quad\quad)} \rightarrow \underbrace{\text{we resumed . . . .}}_{(\quad\quad X \quad\quad)} \quad (3.260)$$

Thus, in Stageberg's version the _-ing_ is added to the present perfect

tense to impart the idea of continuation having just recently occurred

(as is occurring in this explanation at this very moment!). Now, in

spite of the fact that progressives require copulas (as is usually

thought), this sentence contains a present perfect + progressive verb

construction. The unnecessary copula is deleted, for _have_ + _-ed_

(plus optional _just_) indicates the time, and _-ing_ indicates the con-

tinuation.

Another paraphrase supports the last, preferred interpretation:

Since the guests who were departing were now departed,   (3.261)
we resumed . . . .

The formulation _were departed_ is here used in its somewhat archaic

form where verbs of motion often used to take _to be_ rather than _to have_

as an auxiliary. This is reasonable because the past perfect tense is

gradually falling into disuse, and, in fact, both it and the present
perfect are often replaced nowadays by the simple past without a
meaning change occurring. The point here is the one made earlier
several times: transformations should be based on actual language
usage--past and present. Many older, almost obsolete, grammatical
forms still occur but their existence is obscured by the fact that
certain deletions or replacements have taken place. Before specu-
lational deep structures are cited in order to explain overt structures,
the historical forms that have actually existed in the language should
be considered. Interestingly enough, in this regard, it may be noticed
that in Middle English the word have did occur with both v and the
dental suffix d indicative of the past and perfect tenses--havde--yet
the perfect tenses did not come into common use in English until much
later. Thus, the development of the English past perfect tense (based
on Latin models) of have comes from the simple past tense originally--
hav + d(e). The present perfect tense developed from Middle English
habbe, where the bilabial b pairs with the labio-dental v.

Predominance of Implicational Constructions

Almost all absolute constructions containing participles or pasticiples,
so far as the present writer has been able to ascertain, occur in im-
plicational sentences. In order to determine whether the passive voice
or the perfect tense is the source of the later ("absolute") transfor-
mational derivation, it is necessary to consider the logical time
sequence of the two clauses in such a sentence construction, for the
modern form is often deceptive on this point, as illustrated below:

The time came, and John left.   (simple past tense)   (3.262)
The time having come, John left.   (past perfect + progres-
                                 sive--*hadding to having)(3.263)

Sentence (3.263) implies that John was in the process of waiting for a

certain time to arrive; when it had come, he left. Thus, a perfect

tense plus continuation is indicated. In Early Modern English, the

verb could have been was come, which (because of the copula) has the

form of a passive verb, but the meaning is clearly had come, a perfect

form. What most analysts seem to ignore is the semantic similarity

that many native speakers feel exists between passives and perfects.

This semantic similarity accounts for their similar derivational

history in the development of the predominant forms used in Late Modern

English (particularly the twentieth century). Sentence (3.262) has

simple past tense forms in both clauses, the nuances described above

have been lost, and the sentence could be considered a regular com-

pound sentence. However, the described nuances are often implied in

such a sentence, and that is probably why two such clauses could be

joined into one sentence--to preserve the implication. The fact that

pasticiples and past tense verbs usually take the same inflectional

suffix, in addition to indicating past time, also supports this point

of view. That is, if arrived had been substituted for came or come,

both tense and form requirements would have been met, and the meaning

would not necessarily have changed one bit in either of the two sen-

tences. It is no accident, that is, that past tense forms and passive

and perfects are usually the same; even in the case of irregular verbs,

the overwhelming tendency is to reduce the past tense and pasticiple

forms to one inseparable form--as in I went / *I had went, I saw /

*I seen, I sang / *I sung and so on in laymen's speech. If this were

not the case, the section on "troublesome verbs" would not exist in
virtually every prescriptive textbook used in the common schools. The
writer has tested class after class of students on these past /pasti-
ciple forms, and has found that nearly all students, for instance, do
not know the "proper" forms for slink; all the following forms occur:
slank, slunk, had slank, had slunk, and slinked.

In an absolute construction such as

$$
\begin{array}{lll}
\underline{\text{His researches}} & \underline{\text{(being) finished}} & \underline{\text{(by him)}}, \\
(\qquad t_2 & *R_2 & t_1 \qquad) \longrightarrow
\end{array}
$$

$$
\begin{array}{l}
\underline{\text{he wrote up his findings}}, \\
(\qquad X \qquad)
\end{array}
\qquad (3.264)
$$

the optional being and by him show that the first clause is a
passive form; the active form is

$$
\begin{array}{llll}
\underline{\text{Since}} & \underline{\text{he}} & \underline{\text{had finished}} & \underline{\text{his researches}}, \\
(\qquad & t_1 & 2^R & t_2 \qquad) \longrightarrow
\end{array}
$$

$$
\begin{array}{l}
\underline{\text{he wrote up his findings}}. \\
(\qquad X \qquad)
\end{array}
\qquad (3.265)
$$

Again, if being is overt in the passive instance, (3.264), the idea is
one of continuation—i.e., He had just (recently) finished his researches,
stated actively. Many analysts, because they refuse to recognize the
essential similarity between be and have (in passive and perfect
sentences) interpret His researches in the first version above, (3.264),
as the subject of finished (i.e., just as they would interpret the Early
Modern English form The time was come differently than The time having
come = The time had come). Logic, rather than form, dictates such
various traditional interpretations. These considerations prove once
more that logical analysis should precede, so that it may help establish

syntactic structure. The traditional approach produces unnecessary multiple relationships where an essential simplicity exists, logically speaking.

So far, the sequence of tenses have all concerned past time forms. Implicational absolute constructions may also occur in the present tense. However, active versus passive is not always clear. For example, in the above paragraph <u>His researches being finished</u> was seen to be passive, for the psychological subject <u>by him</u> is implied; but the same structure in the sentence below does not function in the same way:

$$
\begin{array}{ll}
\text{He being my brother, I trust him.} & (3.266) \\
\text{Since \underline{he} \underline{is} \underline{my brother}, I trust him.} & (3.267)
\end{array}
$$
$$(\quad t_1 \quad = \quad t_1 \quad) \rightarrow (\quad X \quad)$$

The paraphrased version, (3.267), proves that <u>He</u> is the subject of <u>being</u>, and the clause is active, not passive. <u>Being</u>, thus, is once again a present progressive form indicating continuous "action." It is interesting to note that, semantically, the implication might also be <u>He has (always) been my brother</u>; but this is self-evident from the context and does not seem to be the real force of the clause. Sentence (3.267) indicates an exact paralleling of tenses, present-present, comparable to past-past in <u>Since he was my brother, I trusted him</u>; but it could have been <u>Being my brother, I trusted him</u>, where <u>Being</u> is obviously past progressive (although there is a possible ambiguity of referents in this case).

Just as perfect may precede simple past, so may present precede future:

(He) being my brother, I shall trust him. (3.268)

Since <u>he</u> <u>is</u> <u>my brother</u>, I shall trust him. (3.269)

$$(\quad t_1 = t_1 \quad) \rightarrow (\quad X \quad)$$

The only essential difference between <u>I trust him</u> and <u>I shall trust him</u>

is that the latter implies the possibility of not having always trusted;

the former indicates habitual behavior, which therefore also implies

futurity. <u>He</u> need not be overt; if it is not, <u>being</u> cannot modify

<u>my brother</u>, as is often claimed; there seems to be an equality inferred

by <u>being my brother</u>, so <u>He</u> must be understood as the subject, for it

seems odd to say *<u>Since my brother is he, I shall trust him</u>; and one can

certainly not say *<u>My brother being he, I shall trust him</u>. These facts

suggest that the relationship is actually <u>not</u> one of exact equality;

therefore, the first clause would be better interpreted, perhaps, as

<u>(He)</u> <u>being my brother</u>, ... (3.270)

$$(\hat{a} \quad F \quad) \rightarrow (\quad X \quad)$$

Since <u>he</u> <u>is my brother</u>, ...

$$(\quad a \quad F \quad) \rightarrow (\quad X \quad)$$ (3.271)

Absolute constructions may occur internally, surrounded by the

main clause:

Lee's decision (to surrender), <u>viewed</u> now
(by posterity), was wise. (3.272)

If <u>viewed</u> by posterity now, (then) Lee's
decision (to surrender) was wise. (3.273)

When <u>posterity</u> <u>views</u> <u>it</u> now, ... (3.274)

$$(\quad t_1 \quad {}_3{}^R \quad t_2 \ t_3 \ ) \rightarrow (\quad X \quad)$$

The first two versions, (3.272-3.273), are passive verb forms: <u>If the</u>

<u>decision is viewed by posterity</u>. . . . A present participle or an

infinitive could have replaced <u>viewed</u>, though the latter would require

some re-wording: <u>If one is to view (= were to view or should view) Lee's</u>

<u>decision now</u>, ...

The following absolute construction may be interpreted as a compound or implicational sentence:

<u>Granted</u> (that) you are knowledgeable, you are still not
  wise. (3.275)
It <u>is granted</u> (by me) that you are knowledgeable,
  but . . . . (3.276)
I grant (that) you are knowledgeable, but . . . . (3.277)
Even though (I grant that) you are knowledgeable,

$$\left[\quad \overset{\wedge}{t_1} \ \overset{\wedge}{{}_2 R} \ : \ (\ a \qquad F \qquad) \right] \longrightarrow$$

you . . . .
$(\qquad X \qquad)$ (3.277)

Clearly, <u>granted</u> is a present passive verb, as proven by (3.276). The active version, (3.277), is a compound sentence form, and (3.278) is implicational. In the latter case, the logical expression <u>even though</u> (= <u>although</u>) substitutes for <u>I grant that</u>; the latter expression may be inserted too, however, as a kind of logical redundant apposition.

Sometimes absolute expressions cannot be sensibly interpreted as implications when pasticiples or participles are present. When this is true, they may be interpreted as compound sentences, as seen in these final examples:

He attacked, his hands <u>clenched</u> in fury. (3.279)
He attacked, and his hands <u>were clenched in fury</u>. (3.280)
$(\ a \qquad F \ ) \ \& \ (\ b \qquad {}_{*G}{}^1 \qquad {}_G{}^2 \ )$
He attacked, his hands <u>clenching</u> and <u>unclenching</u>
  in fury. (3.281)

$$\left\{ \begin{array}{l} \text{He attacked, and his hands } \underline{\text{were clenching in fury}} \\ (\ a \qquad F \qquad) \ \& \ \left[\ b \quad (\qquad {}_{*G}{}^1 \qquad {}_G{}^2 \ ) \right. \\ \qquad \underline{\text{and unclenching in fury.}} \\ \qquad (\ \& \qquad {}_{*H}{}^1 \qquad {}_H{}^2 \ ) \left] \right. \end{array} \right\}$$ (3.282)

The so-called pasticiple in the first pair, (3.279-3.280) is clearly a past passive voice form of the verb, for it may be transformed to the active voice: <u>he clenched his hands.</u> . . . In the second pair,

(3.281-3.282), the so-called participle is passive and past progressive simultaneously: <u>his hands were clenching and unclenching. . . .</u> The logical structure of both types may be shown completely and more easily when they are transformed to the active voice:

$$\left[(\overset{\cdots}{\ X\ }),\ \underset{\&\ (t_1\ \ _2R^1}{\underline{\text{and he clenched}}}\ \underset{t_2}{\underline{\text{his hands}}}\ \underset{R^2}{\underline{\text{in fury.}}}\ ) \right] \tag{3.283}$$

$$\left\{ (\overset{\cdots}{\ X\ }),\ \underset{\&[(t_1\ \ _2R^1}{\underline{\text{and he was clenching}}}\ \underset{t_2}{\underline{\text{his hands}}}\ \underset{R^2}{\underline{\text{in fury}}}\ ) \right.$$

$$\left. \underset{\&\ (t_1\ \ _2S^1}{\underline{\text{and he was unclenching}}}\ \underset{t_2}{\underline{\text{his hands}}}\ \underset{S^2}{\underline{\text{in fury.}}}\ )] \right\} \tag{3.284}$$

The prepositional phrase has been interpreted as an adverb of manner, <u>furiously</u>. This causes some notational difficulties, for it assigns R^2 and S^2 for the "same" adverb; but since there are two propositions in the last clause, this usage is not technically incorrect. Likewise, the repeated <u>t</u>'s in the second clause are not technically incorrect; though other symbols could have been used, the repeated <u>t</u>'s add perspicuity to the overall formula.

Miscellaneous Considerations

Indeterminacy of Parts of Speech

Digressing a bit, it is interesting to consider that a universal theory of grammar must come to grips with the possibility of the idea that even the main categories of noun and verb are really two aspects of the same thing, but not in the traditional senses already refuted in this chapter. This chapter has vigorously demonstrated that so-called verbals (i.e., verbs said to be performing other part-of-speech

functions: infinitives, gerunds, etc.) are, in fact, usually true verbs.

But in Chapter II some interesting examples were cited, such as I

dreamed a dream, He lived a life of sin, He took a walk (= He walked),

Do you (have a) desire to go? etc. The same verb-noun correlation can

be seen in the case of verbals; in the examples below, only occurrences

of a swim seem obviously nominal, yet all the underlined forms could

translate as it when the context is known:

Ted enjoys a swim early in the morning.	(3.285)
Ted enjoys to swim early in the morning.	(3.286)
Ted enjoys swimming early in the morning.	(3.287)
Ted enjoys taking a swim early in the morning.	(3.288)
Ted enjoys having a swim early in the morning.	(3.289)
Ted enjoys being (in) swimming early in the morning.	(3.290)

Unlike the earlier cited cases in this chapter, these examples may

support the traditional notion (intuition?) that there are cases where

a word usually considered to be a verb is actually functioning as a

kind of nominal. It seems that these cases illustrate the boundary

which separates logical semantics and true grammar. In other words,

substitution and distribution may be the most important factors here

with respect to the underlined phrases, for only patterning seems

significant for determining their functions. Logically, there is no

problem. There are two propositions, one embedded in the other:

Ted swims early in the morning (every day, presumably) and Ted enjoys

it (where it equals the first proposition). Swim in all its forms

above is a predication, but determining the grammatical functions is

something else again.

Scientifically speaking, the above dilemma is untenable, for it

leaves the analyst of grammar no tools with which he can carry on his

work. The situation is comparable to that of a chemist who unexpectedly

discovers that molecules _are_ atoms, not "compounds" constructed from atoms. There is a way out of the dilemma posed by the _swim_-sentences, however, if one will countenance a little tinkering. The word _enjoy_ has two meanings which are not necessarily mutually exclusive: (1) "to get pleasure from" and (2) "to have the use or benefit of," according to Webster's New World Dictionary of the American Language (Cleveland and New York, 1960, p. 482). Now, the _swim_-sentences imply that Ted does, in fact, swim, _and_ that he derives benefit (= pleasure) therefrom. Thus, these sentences may all be cases of a transformation from a kind of "compound" proposition, as noted above. Alternatively, one could interpret each somewhat as follows:

$$\underset{\underset{3}{t_1}R^1}{\text{Ted}}\ \underset{R^2}{\text{swims}}\ \underset{}{\text{enjoyably}}\ \underset{t_2}{\text{early}}\ \underset{t_3}{\text{in the morning.}} \tag{3.291}$$

The above adverbial (R^2) interpretation, though lacking in aesthetic virtue, seems to convey accurately all the propositional content. It will be recalled that while symbolized in a manner similar to that of adjectives, adverbs are really higher-order functions (or relations). Adverbs, thus, signify properties of properties--i.e., _enjoyably_ specifies the attribute attaching to _swims_. Now, the whole sentence with its entire meaning seems to "hang together" rather well, and the noun-verb distinction has been maintained.

The problem with such a solution is that one has the unsettling suspicion that one will not always be able to handle every word that poses a similar dilemma. Hence, purely structural factors will probably have to be the _final_ measuring stick for sentence analysis after logic has been exhausted. A case in point is the following

sentence taken from a popular comic strip, wherein a woman has agreed

to a man's suggestion that they "go steady" for awhile. She says:

"Okay! We'll one boy-one girl it for a while . . . ."   (3.292)
          in "Mary Worth," Daily Oklahoman, Jan. 30, 1975.

The verb phrase is <u>will one boy-one girl it</u>, which simply means <u>will</u>

<u>go steady</u>. While the logic of the paraphrase seems obvious, one cannot

help but wonder, on grammatical grounds, whether the words and word

structure have not been so altered that one cannot really say that he

is dealing with the <u>same sentence</u> (disregarding concepts) or any gram-

matical derivation therefrom. If <u>one boy-one girl it</u> really is a verb,

in what sense is it a verb?

Such strange examples as the above are really not strange at all.

They occur all the time in everyday utterances; they are just not the

sort of thing of which English teachers and other purists approve.

In an interview with the movie actor Charles Bronson, for instance,

the interviewer said of Bronson that

He finger jabbed, "Now you're going to say I don't like Burton."
          --Jerry LeBlanc, "World's Favorite Tough Guy,"
               Sunday Oklahoman, Feb. 9, 1975.   (3.293)

The verb is clearly <u>finger jabbed</u>. It may be a "paraphrase" of <u>He</u>

<u>jabbed with his finger</u>, but if that is the case, how does the "object"

(in quotes above) relate functionally to the verb, whether it be

<u>finger jabbed</u> of simply <u>jabbed</u>? If the comma is actually a conjunction,

then the first clause means, apparently, <u>He jabbed his finger at me</u>.

It is quite possible that <u>finger jabbed</u> is being used physically and

metaphorically ("pointing" out the meaning expressed in the quotation).

In a popular novel, a man is trying to overwhelm a woman with his
attentions, but she thinks to herself

> No, she could not be cave-manned. (3.294)
> --Grant Stockbridge, <u>Death Reign of the</u>
> <u>Vampire King</u> (Spider, number no. 1)
> (New York, 1975, p. 80)

As written, <u>cave-manned</u> is necessarily a passive infinitive, as the
active form proves: <u>He could not cave-man her</u>. So, <u>cave</u> and <u>man</u> are
not nouns; they are parts of one verb.

The examples discussed in this section and countless others like
them which could easily be adduced illustrate the need in grammatical
theory for a more logical approach in defining basic grammatical
categories. In the last case (<u>cave manned</u>), the <u>-ed</u> form helped to
determine the correct answer, but it has often been shown in this
chapter that form can be misleading. Thus, a close relationship
between logic and syntax must be established for each language, based
on each language's socio-cultural context, before a universal theory
of grammar may be attempted.

FOOTNOTES

[1]George Hemphill, A Mathematical Grammar of English (The Hague, 1973), p. 78.

[2]David A. Conlin, Grammar for Written English (Boston, 1961), p. 173.

[3]Ibid., p. 174.

[4]Ibid.

[5]Ibid.

[6]Ibid., p. 175.

[7]Ibid. Note that Conlin does not prove his point; he merely asserts that such cases are infinitives. Compare to data in the next footnote.

[8]Ibid., p. 118. Several examples are given.

[9]Randolph Quirk and Sidney Greenbaum, A Concise Grammar of Contemporary English (New York, 1973), p. 386.

[10]Conlin, p. 175.

[11]Frederick Crews, The Random House Handbook (New York, 1974), p. 150.

[12]Quirk and Greenbaum, p. 386.

[13]Conlin, p. 174.

[14]Ibid., p. 178.

[15]Ibid., p. 153.

[16]James M. McCrimmon, Writing With a Purpose (5th ed., Boston, 1972), p. 346.

[17]Quirk and Greenbaum, p. 321.

[18]Conlin, p. 173.

[19]Stageberg, p. 221.

[20]Conlin, p. 61. Crews, p. 150.

[21]Conlin, p. 181.

[22]Conlin, p. 181.

[23]Ibid.

[24]Bruce L. Liles, Linguistics and the English Language: A Transformational Approach (Pacific Palisades, Calif., 1972). See especially Chapter Three, pp. 54-105.

[25]Conlin, p. 181. Note discussion on pp. 181-182 also.

[26]Ibid., p. 170 (paraphrased).

[27]Stageberg, p. 235.

[28]Ibid.

[29]Conlin, p. 183.

[30]Ibid.

[31]Stageberg, pp. 187-188, e.g.

[32]Conlin, p. 183.

[33]Ibid., p. 118.

[34]Ibid.

[35]Ibid., p. 119.

[36]Ibid., p. 118.

[37]Ibid., p. 223.

[38]Ibid., p. 182.

[39]Ibid.

[40]Ibid.

[41]Stageberg, p. 235.

CHAPTER IV

EMBEDDED CONSTRUCTIONS

Parenthetical Expressions

In this work, the term "embedded" has been used to mean that a
sentence contains two or more clauses, not all of which are always
clearly overt. Some types of embedding have already been encountered.
This chapter, therefore, may be considered to some extent to be an
amplification of previous material

Dependency

Parenthetical expressions are sometimes called sentence modifiers
or absolute (independent) constructions, as noted in the participle
and pasticiple sections of Chapter III. The expressions to the left
of the brace below are said to be parenthetical because it is usually
believed that they are deletable. However, they are not independent,
for if deleted, the remaining clause becomes a statement of categorical
fact, which is not necessarily the case when the parenthetical portion
is retained, as is apparent upon inspection:

$$
\left.\begin{array}{l}
\text{Truly} \\
\text{Naturally} \\
\text{Certainly} \\
\text{To be sure} \\
\text{Surely} \\
\text{Fortunately} \\
\text{Luckily}
\end{array}\right\}, \text{ he could swim.} \qquad (4.1)
$$

All of the above parenthetical expressions could have been placed

after the verb <u>swim</u>; but it should be noted that when palced in final

position the expressions become adverbs of manner describing a

characteristic or property of <u>swim</u>. If the parentheticals are placed

before <u>swim</u>, the meanings change; they are the same as when they occur

in initial position--i.e., they imply a clausal function such as

<u>It was true (etc.) (that) he could</u> **<u>swim</u>** Since this latter form

causes some notational problems, it is more convenient to represent the

logical structure in a transformation of the above, thus:

$$
\underbrace{(\quad \underset{a}{\underline{\text{he}}} \quad \underset{F}{\underline{\text{could swim}}} \quad)}_{b}
$$

That <u>he</u> <u>could swim</u> was <u>lucky</u>.   (4.2)

(with the column above "lucky":)

true
natural
certain
sure
fortunate

Even this symbolization is simplified, for <u>that</u> means <u>The fact (that)</u>

or <u>It was a fact (that)</u>, i.e., an appositional expression. These

latter formulations support the colon notation used earlier, for they

are equivalent to <u>It was a fact: he could swim</u>, where the whole first

clause, in a sense, is "equal" to the whole second clause. Ignoring

the appositional aspect, sentence (4.2) treats the whole first (sub-

ject) clause as an argument specified by the function <u>G</u>. Thus, in a

way, the parenthetical expressions are sentence modifiers, for they

modify (in the traditional sense) the subject clause; they certainly

do not modify the verb <u>swim</u>, as in <u>He could swim naturally</u>.

Independency

The following sentence, though similar to the one in the last paragraph, differs in one important respect: since the parentheticals are semantically equivalent to the predicate adjective, they can indeed be deleted without sacrificing any of the (whole) sentence's meaning; of course, if a different adjective or noun were inserted, the situation would change. The parentheticals, in this case, merely serve as emphasizers (e.g., <u>Truly, he is truthful</u>). The sentence, therefore, is symbolized in the following manner:

$$
\begin{array}{l}
\text{true (= a truth)} \\
\text{a reality} \\
\text{a fact}
\end{array}
$$

That <u>he is truthful</u> is my opinion.   (4.3)

Thus, even though predicate adjectives occur in the formula of the last paragraph, and predicate nouns (except <u>true</u>) occur in this instance, the logical structure is identical; both forms may be reduced, that is, to one logical structure, for in both cases the subject clauses are "modified" by the function G. Hence, the distinction between adjectives and nouns (as in <u>He's a fool / foolish</u>) is blurred, to say the least.

Meaning and Paraphrase

Some parentheticals, in the course of time, have lost most of their semantic content, and more extensive paraphrasing, though not desirable, is necessary. This fact is shown in the first two parentheticals below:

$$
\left.\begin{array}{l}
\text{In the final analysis} \\
\text{In the long run} \\
\text{When all is said and done} \\
\text{Everything considered}
\end{array}\right\} \quad , \text{ the truth will out (= emerge)} \quad (4.4)
$$

The simplest (and perhaps the most correct) analysis is to interpret the initial expressions as temporal (= then, eventually). However, the first parenthetical may be read as When one finally analyzes everything, and the second, similarly, means When one has run through the length (and breadth) (= the long and the short) of the problem, ... Hence, all four could be equivalent to the implicational forms discussed in the section on pasticiples. This may be proven by converting the last parenthetical to the active voice:

$$
\left(\text{When (if) } \underset{t_1}{\underline{\text{one}}} \underset{2^R}{\underline{\text{considers}}} \underset{t_2}{\underline{\text{everything,}}} \right) \longrightarrow
$$

$$
\text{(then) } \left(\underset{a}{\underline{\text{the truth}}} \underset{F}{\underline{\text{will out.}}}\right) \qquad (4.5)
$$

The above solution may seem dubious to some readers, but it illustrates, at least, some of the problems involved in interpreting parenthetical expressions.

In the following sentence, the parentheticals may not be deleted at all, if the entire sentence meaning is to be retained. The meaning seems to be something like The evidence (currently available) contradicts me, but I do not accept the decision based on it (i.e., a conjunctive sentence).

$$
\left.\begin{array}{l}
\text{In spite of} \\
\text{Despite} \\
\text{Notwithstanding}
\end{array}\right\} \text{ the evidence, I disagree.} \qquad (4.6)
$$

Too much information has been deleted from the above parentheticals

to allow one to attempt a logical analysis with any degree of confidence.
If one is willing to accept the paraphrased conjunctive sentence cited
above, then the analysis accords with those formulas cited in many
previous cases. All contrastive parentheticals such as those above
and others too numerous to mention (e.g., on the one hand, on the
other hand, contrariwise, etc.) imply information in a context; if the
context is not available, either the sentence must remain unanalyzable,
or a suitable (probable) context must be supplied. Any other approach
is nonsensical.

Compound Sentences

Conjunction

Compound sentences, traditionally, are two or more independent
(main) clauses added on to each other. One type of compound sentence
contains clauses joined by so-called coordinating conjunctions, of
which the most common are and, but, or, nor, for, so, and yet.
Ignoring internal structure, this type of sentence, when it is truly
conjunctive, can be symbolized by simply joining the clauses by the
logical symbol for and (&), as shown below:

$$
\begin{array}{ll}
\text{I'm not going, \underline{but} you are.} & (4.7) \\
\text{He arrived early, \underline{yet} he still has not finished his work.} & (4.8) \\
\underline{\text{I am going,}}\quad \underline{\text{and}}\quad \underline{\text{so are you.}} & (4.9) \\
(\quad X\quad)\quad \&\ (\quad Y\quad)
\end{array}
$$

As in Chapter III, capital X (etc.) labels a clause which is not
analyzed internally. All three of the above sentences can be
schematized as in (4.9), for all the conjunctions are more or less
equivalent to and, if one ignores the contrastive connotations of

but and yet. In written English, the comma may replace and in a

series:

$$I \text{ came}, I \text{ saw}, I \text{ conquered}.$$
$$(\quad X \quad)\& (\; Y \;)\& (\quad Z \quad)$$
(4.10)

Sentence (4.10) is said to achieve also a better "aesthetic balance"

by omitting the conjunctive words implied by the commas. Sometimes

both and and commas appear, as in I came, I saw, and I conquered,

where usage permits omission of the last comma. If only one and

appears, multiple clause structure is implied. For example, in I

bought a dozen eggs, a loaf of bread, and a pound of butter, the

expression I bought is inferred for both of the last two elements of

the series. Obviously, some conjunctions (e.g., and, but, or, and nor)

can occur almost anywhere in a sentence, and when they do, multiple

propositions are usually indicated. A compound such as I own a dog and

a cat, for instance, implies I own a dog and I own a cat; I sent

letters to my brother and my sister implies I sent a letter to my

brother and I sent a letter to my sister; and so on. The shorter forms

are transformations of the longer forms.

The semi-colon (which ought to be called a "semi-period," since

it separates independent clauses) can also be substituted for the

conjunction in written English:

$$I'\text{m not going}; \text{you are}.$$
$$-(\quad X \quad)\& (\; Y \;)$$
(4.11)

Implication

No sentences containing for or so were included above, for these

are usually not coordinating words, as is often claimed; they are

usually implicational in sentences where coordination is said to be operating. The sentence I'm going, for it is late, for example, is equivalent to

$$\underset{(\quad\underset{a}{\underline{\text{it (= the time)}}}\quad\underset{F}{\underline{\text{is late}}}\quad)\rightarrow(\underset{b}{\text{I}}\quad\underset{G}{\underline{\text{am going}}}\quad)}{\text{Since}}\qquad(4.12)$$

Likewise, The car was cheap, so I bought it may be interpreted as

$$\underset{(\quad\underset{a}{\underline{\text{the car}}}\quad\underset{F}{\underline{\text{was cheap}}}\quad)\rightarrow(t_1\ _2R\ t_2\ (=a))}{\text{Since}}\qquad(4.13)$$

Disjunction

Logically speaking, sentences containing or or nor are not conjunctions, but disjunctions. The Latin vel (v) is used to symbolize disjunction, as below:

$$\underset{(\quad\underset{X}{\underline{\text{I must hurry}}}\quad)\text{ v }(\quad\underset{Y}{\text{I'll be late}}\quad)}{}\qquad(4.14)$$

$$-[(\quad\underset{X}{\underline{\text{He's not going,}}}\quad)_v(\quad\underset{Y}{\underline{\text{nor are you}}}\quad)]\qquad(4.15)$$

In English, either . . . or and neither . . . nor function rather like parentheses in that they introduce separate clauses. The sentence Either you or I will go contains two propositions symbolized thus:

$$\underset{(\quad\underset{X}{\underline{\text{you will go}}}\quad)\quad\text{v}\quad(\quad\underset{Y}{\underline{\text{I will go}}}\quad)}{\text{Either}\qquad\text{or}}\qquad(4.16)$$

Neither and nor could have been substituted, respectively, for either and or, except that nor requires subject and verb inversion, and negation would also have to be inserted.

Traditional Conjunctive Adverbs

A second type of compound is one which contains clauses joined by so-called conjunctive adverbs. (In written English, the semi-colon is usually written after the first clause.) In all the following examples, the underlined conjunctive adverbs can be interpreted, more or less equivalently, as <u>and</u>:

I'm going to call her; <u>however</u>, she won't answer.	(4.17)
You are ill; <u>moreover</u>, you are ill due to negligence.	(4.18)
I'm hunting for a job; <u>furthermore</u>, I'll find one.	(4.19)
She's beautiful; <u>also</u>, she's clever.	(4.20)
We're too late for supper; <u>besides</u>, we don't want any.	(4.21)
I'm sick; <u>nevertheless</u>, I'm going to school.	(4.22)
Rome burned; <u>likewise</u>, Atlanta burned.	(4.23)
He drove too fast; <u>accordingly</u>, he was fired.	(4.24)
<u>I will pay my fees</u>; <u>then</u>, <u>I will go home</u>.	(4.25)

$$(\quad X \quad) \quad \& \quad (\quad Y \quad)$$

Sentence (4.17) contains a connective which could mean "but"; however, it is symbolized like (4.25), as are the others in this group. (The comma is often omitted after the conjunction.)

Some sentences employ conjunctive adverbs which <u>appear</u> to be disjunctive;

He should bundle up; <u>otherwise</u>, he'll catch cold.	(4.26)
You'll have to do better (than that); <u>else</u> you will not succeed.	(4.27)

Both adverbs seem equivalent to <u>or</u>, but this is illusory. They are implicational forms:

$$-(\underset{a}{\underline{\text{If}} \ \underline{\text{he}}} \quad \underset{F}{\underline{\text{doesn't bundle up}}},) \longrightarrow$$

$$(\underset{a}{\underline{\text{he'll}}} \quad \underset{G}{\underline{\text{catch cold}}} \ (= \text{become ill}).) \qquad (4.28)$$

$$\underbrace{\text{If you don't do better,}}_{-(\qquad X \qquad)} \rightarrow \underbrace{\text{you'll not succeed.}}_{-(\qquad Y \qquad)} \qquad (4.29)$$

The following conjunctive adverb sentences are all of the same form as
the schematized instance in (4.29), except for lack of negation.

He's a genius; <u>hence</u> he's an "A" student. (4.30)

She won the prize; <u>consequently</u>, she won recognition. (4.31)

You are tardy; <u>therefore</u>, you'll get a zero (4.32)

Ill-Defined Clause Categories

Sometimes an implicational sentence is disguised because the con-
junction <u>and</u> separates the clauses, and a conjunctive adverb is buried
in the sentence:

I've been a bad boy and I will <u>therefore</u> get a spanking. (4.33)

$$\text{Since }\underbrace{\text{I've been a bad boy,}}_{(\qquad X \qquad)} \rightarrow \underbrace{\text{I'll get a spanking.}}_{(\qquad Y \qquad)} \qquad (4.34)$$

Likewise, the disjunctive <u>or</u> can be confused with implication:

You'd better leave, or (else) I'll scream. (4.35)

$$\underbrace{\text{If you don't leave,}}_{-(\qquad X \qquad)} \text{(then)} \rightarrow \underbrace{\text{I'll scream.}}_{(\qquad Y \qquad)} \qquad (4.36)$$

The <u>if</u>-clause in (4.36) is traditionally called a dependent, or
subordinate, clause because of the subordinating conjunction <u>if</u>; many
such clauses are actually implicational, as will be shown later. For
now, it is enough to notice that the distinction between independent
clauses and subordinate clauses is certainly ill-defined when impli-
cationals enter the picture. It should be recalled that the terms
"coordinate" and "subordinate" are essentially <u>semantic</u>, for they
imply, respectively, that the clauses are on a meaning par or that one
clause depends on the other to make its meaning clear. The fact that

implicationals can take coordinating conjunctions, conjunctive adverbs,
and subordinating conjunctions is very damaging to traditional theory.

In fact, simple sentences connoting causation are actually
implicational too, from a logical point of view. Such a sentence
is An "A" requires study, which implies a logical structure something
like

$$\underbrace{\text{If one desires an "A", (then)}}_{X} \longrightarrow$$

$$\underbrace{\text{one is required to study,}}_{Y} \qquad\qquad (4.37)$$

which, traditionally, is a complex sentence introduced by a subor-
dinate clause. In other words, much is left out of the original
sentence which is assumed. Such an instance further proves that the
distinction between simple and more complicated sentences is not
always clear because the second (independent) clause actually requires
the first clause in the situational context in which it is uttered.

Semantic Conjunction

If two clauses are alike--i.e., declarative, imperative, yes-no
questions, WH-questions--they may be conjoined, providing they are
semantically related. However, the rule seems to be broken in the
following pair of sentences, both of which contain an initial impera-
tive clause and a final non-imperative clause:[1]

Get out of here or I'll scream.	(4.38)
Get your coat and we'll go to the movies.	(4.39)

These sentences appear to be disjunctive and conjunctive, respectively.
But appearances are deceiving, for they are both implicational sentences:

$$\underline{\text{If you don't get out of here,}} \text{ (then) } \underline{\text{I'll scream.}} \qquad (4.40)$$
$$-(\qquad\qquad X \qquad\qquad) \longrightarrow (\quad Y \quad)$$

$$\underline{\text{If you get your coat,}} \text{ (then) } \underline{\text{we'll go to the movies.}} \qquad (4.41)$$
$$(\qquad\qquad X \qquad\qquad) \longrightarrow (\qquad\qquad Y \qquad\qquad)$$

Thus, the rule stated above continues to hold; and this fact proves that if grammatical theory is to be consistent, implicational sentences should perhaps be assigned to a sentence category separate from other categories, as they are in mathematical logic. On the other hand, in view of the transformational possibilities suggested by the different versions of the above examples (plus gerund implicationals, infinitive implicationals, etc., discussed earlier in this work), it seems reasonable just to set up an "Embedded Sentences" category, of which implicationals and their non-implicational transformations are subcategories. There are merits and drawbacks to both of these alternatives. Here, it is merely essential to note that implicationals span the various sentence types.

Restrictive and Nonrestrictive Clauses

Implicit in the foregoing discussion and in pages to follow is the fact that there are different kinds of implication in natural languages such as English. Some, for example, assert a causal relationship, such as <u>If he hits me, I'll strike back</u>. Others express something more akin to contingency, such as <u>If I get sick, I'll miss my exams</u> and <u>Unless you shape up, you'll have to ship out</u>. Still others seem to express the reason for something happening, such as <u>Because of the tornado warning, we retreated to our storm cellar</u>; such a sentence seems to express both reason and cause-effect: <u>The tornado warning was the reason (= stimulus) for our retreating to our storm</u>

cellar. There can be, thus, some "overlapping" of implication types because there can be some "overlapping" of interpretations. It is possible that a word such as because can simultaneously mean both cause-effect and reason; in such cases, the description of the process as "overlapping" may be somewhat incorrect, unless the term is used in a rather broad sense.

It has been pointed out by rule and example that any two or more structures can be conjoined, whether they be sentences or sentence constituents, as long as they are structurally alike. But it was pointed out that they must be semantically compatible. Being "alike" and being "semantically compatible," however, are conditions that are difficult to define exactly in some situations. A case in point is the difference between sentences containing non-restrictive relative clauses and those containing restrictive relative clauses, such as the following:

Professors, who teach psychology, are odd.   (4.42)
Professors who teach psychology are odd.   (4.43)

These two sentences are not structurally alike, though they appear to be quite similar. The commas in the non-restrictive relative are written representations of pauses in an oral utterance; the sentence's meaning is thus, not conveyed by words alone--i.e., lexically--but stress and intonation do play significant roles in interpretation. It is usually claimed that non-restrictive relative clauses derive transformationally from underlying ("deep structure") compound sentences.[2] While there seems to be no need to posit a deep level of grammatical structure, it must be admitted that Professors, who teach

psychology, are odd is most easily explained (structurally), if one
assumes its close "kinship" to the following compound sentence:

      Professors teach psychology and professors are odd,   (4.44)

wherein there has been deletion of and and substitution and movement ·
of the redundant second instance of professors. The semantic compati-
bility criterion is met, but in a rather strange way. Both forms
"mean" the same thing, but both are nonsensical! That is, both the
non-restrictive relative and the compound imply all professors are odd
and also that all professors teach psychology. Hence, both forms of
sentence are false with respect to facts in the normal, everyday world.
Such sentences reveal the flexibility of language, for they do make
sense in special contexts (what logicians call "possible worlds").
For example, there are, no doubt, many students who do believe that
all professors are odd (it is a matter of opinion, anyway, rather than
precise definition) and that these professors teach psychology (in
the sense that they use psychological methods and principles) in
teaching their classes.

In view of the above considerations, the restrictive relative
sentence cannot derive transformationally from the aforementioned
compound sentence; it differs structurally (no pauses = commas) and
semantically from the non-restrictive relative sentence which is
synonymous with and structurally similar to the compound sentence.
Even if one assumes a context where, say, a student does believe that
all psychology professors are odd, this still does not explain from
what form(s) the restrictive form derives. Those transformational
grammarians who claim that "nonrestrictive relatives . . . come from

conjoined sentences" in deep structure also claim, on the other hand,

that "restrictive relatives come from sentences embedded inside noun

phrases" in deep structure.[3] The sentence under discussion, then,

would be analyzed thus:

$$\left\{ \left[\text{Professors}_{NP_2} \text{(who teach psychology)}_{S_2} \right]_{NP_1} \text{ are odd} \right\}_{S_1} \qquad (4.45)$$

Such an interpretation could imply that people carry around with them

sentence structures such as S_2, NP_1, and so on in their heads. Such

a solution is elegantly neat, but unconvincing, to the present writer.

Why not, on the contrary, approach the problem from a more

semantic standpoint? For instance, a professor is one who teaches--he

is a <u>teacher</u>. It is possible that the restrictively stated version of

the proposition derives from something such as

$$\underset{a}{\underline{\text{Psychology teachers (= professors)}}} \underset{F}{\underline{\text{ are odd}}}, \qquad (4.46)$$

where the logical argument is a proposition not further analyzed, but,

apparently, means something rather like <u>(They) teach psychology</u> =

<u>Teachers (professors) of psychology</u>. In logic, one could state the

whole molecular proposition thus: "For all x, if x is a professor

(= college teacher), and if x teaches psychology, then x is odd." The

complex <u>if</u>-part of the proposition is "collapsed" grammatically into a

modificational structure (called "noun adjuncts" by some analysts) in

the English expression <u>Psychology teachers (professors)</u>, where the

noun-verb distinctions in the usage of <u>teach</u> are blurred. Hence, some

provision must be made to create both a subject and a verb out of the

conception (idea) of <u>teach</u>. The semantics of ranking also enter the

picture; one can say <u>Teachers teach psychology</u>, but not <u>Professors</u>

*prof psychology--which is merely an idio-syncratic fact of English

usage. Therefore, Professors is chosen to fulfill the role of "For

all x, if x is a professor. . ."; who teach . . . fulfills the role of

"x teaches psychology" (where who substitutes for Professors to avoid

redundancy of form and possible misunderstanding); and these two

clauses form an antecedent of a conditional (implicational) expression

of which are odd is the consequent. This solution concerning the

source of Professors who teach psychology are odd may seem more com-

plicated than the transformationalist's solution, but it accords

better with known facts and seems more reasonable in that it also

accords rather well with logic. The transformational solution seems

to view the manipulative processes of transformation as almost purely

mechanical--i.e., unaffected, to a large extent, by sense and meaning.

Restrictive relative sentences are not amenable to a unary classi-

fication, as is done by most grammarians, regardless of their

theoretical persuasions. In the previous pair of relative sentences,

it was shown that the restrictive version could be explained by

reference to an implicational proposition. This is not true of the

sentence You may consult the dictionary which is on the table (as will

be seen presently). Transformationalists claim that "the most im-

portant fact about sentences in English is that each has both a deep

structure, which conveys the meaning of the sentence, and a surface

structure, which describes the actual shape or form of the sentence."[4]

One difference between this theory and the conception employed in this

work is that the transformationalist actually conceives of sentence

forms in deep structure, whereas the present writer speaks of unordered

ideas forming larger "combinatory ideas" (propositions) which may,

often, be expressed in a variety of syntactic forms. It is important

to note that what appears to stand for an embedded proposition (e.g.,

a relative clause such as . . . which is on the table) may not be a

proposition at all. It may, for example, derive transformationally

from a locative expression, as in the following sentence:

$$\underset{\substack{t_1 \quad 3^R}}{\underline{\text{You}} \; \underline{\text{may}} \; \underline{\text{consult}}} \; \underset{t_2}{\underline{\text{the dictionary}}} \; \underset{t_3}{\underline{\text{on the table}}}. \qquad (4.47)$$

This non-relativized sentence is closer to the propositional "form"

(in that only the essential ideas are represented by the syntactic

structure) than the synonymous sentence

You may consult the dictionary which is on the table.   (4.48)

The symbolized version is less preferable in an utterance because it

can be ambiguous to the hearer: it is not clear who or what is on

the table--You or the dictionary. The relativized version, constructed

on analogy to non-restrictive sentences where double, identical

reference is also made, is more preferable because which can only

apply to inanimate things (the dictionary), so the question of You

being on the table never arises. The relativized version has also

expanded a non-sentence (on the table) locative expression to a

sentence by adding the redundant which and the semantically unnecessary

copula, thus giving the appearance of a proposition. Other ambiguities

apart, the non-relativized version has the virtue of being spoken in

one intonation contour, thus reinforcing the idea of only one propo-

sition being intended by the speaker; otherwise, one could speculate

that there is incomplete predication involved: You may consult the

dictionary (lying) on the table, which is comparable to . . . which

<u>is (lying) on the table</u> in the relativized version. The intonation

contour and pauses (commas) are useful criteria, for they also serve

to distinguish the restrictive sentence from the non-restrictive

sentence

<div style="text-align: center;">

You may consult the dictionary, which is on the table.   (4.49)

</div>

which is obviously equivalent semantically to two propositions; it is

a transformation of

$$
\begin{array}{c}
\underline{\text{You}}\ \underline{\text{may consult}}\ \underline{\text{the dictionary,}} \\
(t_1 \qquad 2^R \qquad\qquad t_2 \qquad\qquad)
\end{array}
$$

$$
\begin{array}{c}
\underline{\text{and}}\ \underline{\text{it}}\ \underline{\text{is (lying)}}\ \underline{\text{on the table.}} \qquad\qquad\qquad (4.50) \\
\&\ (u_1 \qquad 2^S \qquad\quad u_2 \qquad\quad) \\
(=t_2)
\end{array}
$$

In this case, one can assume incomplete predication in the second

clause, or not assume it, as one wishes--for there are two common

intonation contours (just as in the relativized version) separated by

<u>and</u>; and two propositions are <u>definitely</u> intended. That is, the

restrictive version is merely concerned to restrict dictionary choice

to the one on the table (and no other in some different location),

whereas the non-restrictive version adds the second clause as an

"afterthought" (a point of added information as to where the dictionary

may be found).

It is, of course, possible to say <u>You may consult the dictionary,</u>

<u>(lying) on the table</u>--i.e., non-restrictively with <u>which</u> deletion.

But the second clause here (ignoring the possible ambiguity) cannot

be interpreted as a simple locative expression as it can in the

restrictive version without <u>which</u>, for the intonation contours of the

two forms are different. That is, the pitch pattern of <u>on the table</u>

in the which-less restrictive sentence is part of a commonly recognized sentence contour pattern which spans the whole utterance; but there are two commonly recognized sentence contour patterns in the which-less non-restrictive sentence. The pitch of the voice between dictionary and on in the which-less restrictive version is sustained at a high (3) level with no pause juncture; whereas the pitch of the voice in the which-less non-restrictive sentence lowers (1) at the end of the pronunciation of dictionary, and then there is a pause juncture which substitutes, apparently, for medium-pitched (2) deleted which, after which the pitch rises (3) again at on. Thus, the structures are different, signaling a difference in meaning. The pitch pattern of the restrictive, non-relativized sentence forms a sentence contour of 2-3-1, but the non-restrictive, non-relativized sentence contains two sentence contour patterns: 2-3-1 and (2)-3-1, where the paren- thesized second 2 indicates possible deletion of which from the relativized form. Thus, the evidence strongly suggests that the speaker of the restrictive sentence intends one proposition, whether or not a which-clause is present; in the non-restrictive sentence, on the other hand, the speaker intends two propositions, whether or not a which-clause is employed in the utterance.

Questionable Conjunction

A final instance of possible conjunction is the sentence

$$\underbrace{\text{She was right}}_{(\quad X \quad)}, \underbrace{\text{he was sure}}_{\&(\quad Y \quad)}, \qquad (4.51)$$

where the comma (pause) is equivalent to and, not but, for contrast is

not intended. However, a reasonable paraphrase of the second clause

raises some doubt, for it refers to the entire first clause and is

therefore a kind of object functioning in a single, complex proposition.

Reversing the order of the clauses supports this view:

$$\underset{\underset{1}{t_1} \qquad \underset{2}{}R}{\text{He was sure (= knew)}} \quad \text{(that)} \quad \underset{(\ b \qquad G \qquad)}{\underline{\text{she was right.}}} \qquad (4.52)$$

$$t_2 \ (= \text{"it"})$$

The sentence is still unclear. For purposes of simplification, it will

be assumed that the intended meaning is <u>not</u> that she was right about

something, namely that he was certain of something. This example

illustrates, again, the distinction between sentences that <u>seem</u> to be

propositions in their own right whereas one is actually dependent on

the other to get across the speaker's total meaning. That is, <u>He was</u>

<u>sure</u> implies something about which he was certain; hence, the clause

is incomplete without its "object." The logical connective (= <u>that</u>)

indicates that a more complete specification is to follow--in this

instance, of what he knew or was certain about. The colon notation

is used just as it might be used in regular English written prose:

<u>He was sure of (=knew) it: she was right</u>, where <u>it</u> anticipates the

second clause; and the second clause is a complete specification of

<u>it</u> with which it is in apposition.

<div align="center">Complex Sentences</div>

Problems in Subordination

Just as traditional grammar defines compound sentences as those

which contain coordinate clauses that are essentially independent, so

subordinate sentences are said to be those which contain one inde-
pendent clause and one or more clauses which depend upon some element
in the independent clause. Dependent clauses, then, are not just
added on to the main clause; they are included in it, and are therefore
considered as lower-level modifications which perform nominal, adjec-
tival, or adverbial functions. (It should be noted that restrictive
sentences fit this definition, but non-restrictive sentences originate
as independent clauses.) The most common subordinating conjunctions
are: (al)though, unless, if, because, as, that, how, whether, and all
WH-question words, though the latter also occur in main sentences.

A subordinate clause may occur in different parts of the same
sentence sometimes, but without changing function. For example, the
sentences below are both the same implicational:

$$\text{We left because he came.} \qquad (4.53)$$
$$\underset{\text{a}}{\text{Because } \underline{\text{he}}} \ \underset{\text{F}}{\underline{\text{came}}}, \ \underset{\text{b}}{\underline{\text{we}}} \ \underset{\text{G}}{\underline{\text{left}}}.$$
$$(\qquad \text{a} \qquad \text{F}\ ) \longrightarrow (\text{b} \qquad \text{G} \quad) \qquad (4.54)$$

The word because implies consequence. Because is occasionally equivalent
to the so-called coordinating conjunctions for and so, and when it is,
it is impossible to distinguish (semantically) whether the sentence
containing it is compound or complex:

$$\text{He left } \underline{\text{because}} \text{ it was late.} \qquad (4.55)$$
$$\text{He left, } \underline{\text{for}} \text{ it was late.} \qquad (4.56)$$
$$\text{Since } \underline{\text{it}} \text{ (= the hour) } \underline{\text{was late}}, \qquad \underline{\text{he left}}. \qquad (4.57)$$
$$(\qquad\qquad \text{a} \qquad\qquad \text{F} \qquad) \longrightarrow (\text{b} \qquad \text{G}\ )$$

Likewise, the following sentences imply consequences:

$$\text{Unless he comes, I'll quit.} \qquad (4.58)$$
$$\text{If he comes, I'll quit.} \qquad (4.59)$$
$$\text{(Al)though } \underline{\text{he'll come}}, \qquad \underline{\text{I'll quit}}. \qquad (4.60)$$
$$(\qquad\qquad \text{a} \qquad \text{F}\ ) \longrightarrow (\text{b} \qquad \text{G}\quad)$$

Since a clause is clearly _not_ a noun, adjective, or adverb
(by definition), when one says that a clause is functioning as a
nominal (etc.), the statement infers that the clause occurs in positions
where nouns (etc.) occur and this may be proven by substitution of a
noun (etc.) equivalent. For example, the noun clause is said to
function as the subject in

<div style="text-align:center">

Whoever has not paid his dues should pay now.   (4.61)

</div>

If a plural subject is **suggested** then the plural may be considered
as a single unit (each and every _one_), as the grammatical agreement
of the verb _has_ implies. The sentence would then be symbolized as

<div style="text-align:center">

He <u>who</u> <u>has not paid</u> <u>his dues</u>, <u>should pay</u> <u>them</u> <u>now</u>.   (4.62)

$$\left[t_1 - (t_1 \quad 2^R \quad t_2 \quad) \quad 3^R \quad t_2 \quad t_3 \right]$$

</div>

The symbolism of the various elements in the two clauses has not been
differentiated so that the essential sameness of the two clauses (not
just the "subject" of the sentence by substitution) might be clearly
shown. Since only one clause is negated, the above formulation must
be a transformation of the following compound sentence:

<div style="text-align:center">

<u>Some</u> <u>have not paid</u> <u>their dues</u>, and

$$\left[-(\ t_1 \quad 2^R \quad t_2 \quad) \quad \& \right.$$

<u>they</u> <u>should pay</u> <u>them</u> <u>now</u>.   (4.63)

$$(\ t_1 \quad 3^R \quad t_2 \quad t_3 \ ) \left. \right]$$

</div>

The problem illustrated above by the _Whoever_-clause, as opposed to
the _He (who)_-"clause," is that traditional grammars classify the former
as a noun clause (because, e.g., _They_ can be stubstituted for the whole
clause) and the latter as a relative adjective clause (because the

who-clause modifies He). Yet, all that has been done here is to sub-
stitute the semantically equivalent He (who) for Whoever (=they)!
One cannot say, by substitution, *They have not paid their dues should
pay now; thus, the first (Whoever) clause is not the subject of
should pay now. Neither does it make sense, logically, to interpret
the who-clause as an adjective modifier of He in the first symbolized
formula, for only He is "modified" (substituted for) by who, not the
entire predication in the who-clause. The predications of the two
clauses are different too; one is negated and the other is not. How,
then, could the negated who clause modify He (the subject of should
pay them now), which is not negated, when they are otherwise the same?
The only conclusion that is possible is that there are two different
clauses which have been conjoined, and the relative pronoun who is
the conjoiner, substituting not only for He, but also for and (as
shown overtly in the second symbolized formula).

In logic and mathematics, if one counterexample can be found for
a universal claim, then that belief is wrong. If the same precision
is desirable in syntax, then the ideas of relative adjective clause
and noun clause, as usually distinguished from one another, need to be
abandoned, as the above discussion proves. At least, the concept of
relative adjective clause modifier can easily be disproved in view of
the above findings, for all such clauses, if they are not restrictive,
are merely transformations of compound sentences; the conjunction in
the compound sentence is replaced by the relative pronoun which also
substitutes for a noun in the so-called independent clause. It is
interesting that Conlin, though he primarily uses traditional methods
for the analysis of verbals and compound and complex sentences, agrees

with what has just been said, except for the transformational claim. In

relative clauses, he says, "the relative pronoun has a function in its

clause besides that of connective: It may be the subject of the clause,

a complement, the object of a preposition, or a possessive adjective."[5]

So far so good, but Conlin's explanation disagrees logically with his

own previous statement: "A subject-predicate word group may be

substituted for an adjectival modifier. It is called an adjective

clause."[6] Now, there is a good deal of difference between saying,

e.g., that a pronoun may be a subject in its clause (which is true)

and saying that the whole clause headed by a pronoun is adjectival

(which is false), which is based on substitution. This is tantamount

to saying that the pronoun is an adjective! For if the whole pronoun-

clause is adjectival, so is the pronoun which heads it. The point

can be seen better, perhaps, visually by examining a few sentences:

The man, who (=that) was here, left. (subject) (4.64)
The girl, whom (=that) you detest,
 is coming to visit us. (direct object) (4.65)
Some books, in which you may be interested, (object of
 have arrived. preposition) (4.66)
Some books, that you may be interested in, (object of
 have arrived. preposition) (4.67)
The boy, whose grades are low, is ill. (possessive
 adjective) (4.68)

In each case above, the underlined pronoun "modifies" the underlined

noun in the main clause, but only in the sense that the referents are

the same. The pronouns, with two exceptions, do perform the traditional

functions indicated in parentheses--i.e., subject of dependent clause,

object of independent clause and possessive adjective modifier of

noun grades. In (4.66) and (4.67), the active verb is interest, as

in These books may interest you; hence, interested in is a verb + verb

particle construction, and that or which (= books) is a direct object,

not an object of a preposition. However, the pronouns in (4.64-4.67)
are not adjectives by the traditional definition; they are pronouns
which are repetitious referents of the underlined nouns; in the last
example, whose is an adjective modifier (of grades) within the dependent
clause, but not outside of it. The dependent clauses do not describe
the nouns that they are said to modify; they make additional predi-
cations about them; to call these clauses adjectival functions because
they occur positionally beside the head nouns is patently absurd.
Substitution is equally absurd, for the whole dependent clauses may
not be substituted for the head nouns; only the pronouns can. The
substitution critera are based on pairs such as The ugly killer
stabbed the lady / The killer, who was ugly, stabbed the lady, but
two things are wrong here: (1) the first is restrictive, the second
non-restrictive, and (2) such a procedure won't work with pairs such
as The man, who was here, left / *The here man left. Conlin cites,
in the sentences below, (4.70) as a substitution instance of (4.69)
with respect to the underlined portions:[7]

This is the new house. (4.69)
This is the house that Jack built. (4.70)

Surely, this structural maneuver is invalid, for new does not equal
that Jack built in any modificational sense; new describes the house;
that Jack built it describes his actions--i.e., it predicates, perhaps,
that the house he built was, in fact, the same new house noted in the
first example. If one merges these sentences and says, This is the new
house that Jack built, surely new does not equal that Jack built. All
of these sentences containing "adjective clauses" are, thus, sentences
containing two (or more) propositions which have been conjoined, and

this conjoining is done by means of the relative pronouns. If the

pronoun is an object, it may even be deleted:

> The girl (whom) you detest is coming. (4.71)
> Some books (that = which) you may be interested in (4.72)
> have arrived.

Now, it is impossible to tell whether these are restrictive or non-

restrictive, except that the whole sentence meaning may make it clear.

In these cases, the juxtaposition of two subject-predicate word groups

indicates separate sentences that are conjoined, similar (but not

identical) to

> She was right, he was sure, (4.73)

where one (compound) formulation was offered as a possible suggestion

(at the end of the section on compounds).

In the above discussions it was noted that the relative pronouns

did not modify the nouns they are usually claimed to modify because

they were, in fact, two expressions with but one referent in each

instance. There is a term in traditional grammar, namely "apposition,"

which could be (but never is) applied to such cases. Conlin, e.g.,

defines apposition this way: "From the standpoint of structure, it is

usually a side-by-side relationship between words or word groups

having the same function within the sentence."[8] Thus, in a sentence

beginning The girl, who. . . , there is apposition, for both the noun

and the pronoun are subjects of clauses in the sentence, and both

girl and who are the same person side by side structurally. The

strange thing is that apposition is always used with reference to nouns

(noun "substitutes")--e.g., Mark Twain the author . . . and The fact

<u>that I knew . . .</u> , but not relative clause pronouns and the nouns they

substitute for. Nor is the similarity noted in expressions such as

> The <u>month when</u> they graduate is June.   (4.74)
> The <u>city where</u> I was born is Chicago.   (4.75)
> The <u>reason why</u> is my business.   (4.76)

In spite of the fact that time, place, and cause expressions are

defined as adverbials by traditional grammarians,[9] they are viewed as

introducing adjective clauses in sentences such as those above.[10] The

<u>when-</u> and <u>where</u>-sentences, nevertheless, are to be interpreted in their

present forms somewhat as the restrictive relative sentences were, not

as two conjoined propositions. Thus, logically, there is only one

clause. For example, in (4.74), <u>when</u> is a temporal expression equal

to <u>June</u>; so how, in traditional terms, could <u>when</u> (an adverbial)

modify the noun <u>month</u>? Such an analysis goes counter to the traditional

definitional functions of what may modify nouns, and what adverbs may

modify. Mere juxtaposition, apparently, is the criterion. How

convenient! Yet, there is the hint of an insight in the traditional

view. Since the noun <u>month</u> is semantically equivalent to the adverbs

<u>when</u> and <u>June</u>, why not interpret them as "co-modifiers" in the sense

that they are logical equalities? That is, they are three variables

for the same referent. The symbolization would look something like

this:

> The month is June when they graduate,   (4.77)
> t_1 t_1 t_1 t_2 2^R

which originates in the simplified expression

> Then (= in the month of June) they will graduate.   (4.78)
> t_1 t_2 2^R

(The temporal expression above, of course, may be placed at the end of the sentence rather than at the beginning.) The copula is not symbolized in the first case above (by =) because equality of the referents is shown by the numeral one on the first three subscripted terms; moreover, to use the equivalence sign would infer an equality of _everything_ on the right side to the first term, which, of course, would be incorrect.

The same kind of analysis applies to the _where_-sentence. The _where_-sentence is logically analyzed as:

$$\underset{t_1}{\underline{\text{The city}}} \text{ is } \underset{t_1}{\underline{\text{Chicago}}} \underset{t_1}{\underline{\text{where}}} \underset{t_2}{\underline{\text{I}}} \underset{2^R}{\underline{\text{was born}}}, \qquad (4.79)$$

which is equivalent to

$$\underset{t_1}{\underline{\text{There}}} \underset{t_2}{\underline{\text{I}}} \underset{2^R}{\underline{\text{was born}}} \qquad (4.80)$$

or

$$\underset{t_2}{\underline{\text{I}}} \underset{2^R}{\underline{\text{was born}}} \underset{t_1}{\underline{\text{there}}}, \qquad (4.81)$$

where _city_ and _Chicago_ are variants of _there_.

The _why_-sentence causes more difficulty because _why_ stands for deleted information. In its _present form_, it does not seem to be a proposition at all unless one interprets _is_ as an equivalence relation:

$$\underset{t_1}{\underline{\text{The reason}}} \underset{t_1}{\underline{\text{why}}} \underset{=}{\underline{\text{is}}} \underset{t_1}{\underline{\text{my business}}}. \qquad (4.82)$$

But the equivalence sign is redundant; the term subscripts indicate the equality obtaining between the referents. Hence, these terms

are cases of true apposition; there is no need for a predicate symbol,

for there is no _overt_ predicate. If one supplies a possible predicate,

the formula is symbolized in the same fashion as the _when-_ and _where-_

sentences:

$$\text{The reason why I am leaving is my business.} \qquad (4.83)$$
$$t_1 \quad t_1 \quad t_2 \quad {}_2R \qquad \qquad t_1$$

However, this is still not quite correct, for _why_ is not exactly on

a par with the other two relata similarly subscripted. The two under-

lined portions below indicate a possible equality, if one specifies

precisely the meaning of _my business_:

$$\underline{\text{The reason why I am leaving}} \text{ is (that) } \underline{\text{I am angry}}. \qquad (4.84)$$
$$(\qquad X \qquad) : \qquad (\quad Y \quad)$$

This specification is meant to establish an intended interpretation of

my business to imply, e.g., _none of your business_. It disallows

because of my business. That is, I am angry, and that is why I am

leaving, and it is none of your affair. Now, it can be seen that _why_

is merely a connective equal to _that_: The reason (that) I am leaving.

. . . Thus, the meaning of the whole first clause is explained by

the second clause, though the two meanings are obviously not seman-

tically equal. There are affinities between this kind of sentence and

an implicational sentence for _because_ could have been substituted for

the optional _that_ in the last symbolization:

$$\text{Because (= since) } \underline{\text{I am angry,}} \quad \underline{\text{I am leaving.}} \qquad (4.85)$$
$$(\qquad a \quad F \quad) \longrightarrow (a \qquad G \quad)$$

However, the force of the original sentence does not seem tô be implicational, so it should be symbolized as:

$$\underline{\text{The reason why}}_{t_1} \; \underline{\text{is}} : \underline{\text{my business}}_{t_1}, \qquad (4.86)$$

which, more or less, accords with traditional analysis, except that why (or a why-clause) is not an adjective (or adjectival in function) for it does not describe something of The reason; it tells (i.e., predicates) what the reason is more explicitly. That is, the why-clause when made explicit is in apposition to The reason, and might be symbolized, alternatively, as

$$\underline{\text{The reason}}_{t_1} \; \underline{\text{why (. . .)}}_{t_1} \; \underline{\text{is}} : \underline{\text{my business}}_{t_1}, \qquad (4.87)$$

where the internal structure is shown more accurately. This use of the colon, as a lgoical sign, is similar to normal written English-- e.g., He bought three things: a shirt, a tie, and a suit. It is an equality in the sense that the set meant by the first clause is specified in terms of its separate members on the right side of the colon. Mathematical set notation is avoided because in many sentences, such as the above symbolization, the "equality" is semantically slippery; for instance, sometimes the colon anticipates an "object": He knew (it): You were coming / He was aware of the fact (that): you were coming. Thus, the distinction between equality and objective functions is blurred when apposition enters the picture.

Grammatical Functions of Clauses

Early in this section on complex sentences, it was shown that

noun clauses as sentence subjects can easily be interpreted as adjective clause modifiers, when traditional analysis is used. The discussion of why-clauses above proves that these so-called adjective modifiers (of subject nouns in the cited examples) can also be confounded with the traditional concept of a noun clause in apposition to a subject noun, for why is equivalent to that; thus, the analysis of The reason (why) I am leaving . . . is logically the same as the analysis of The reason (that) I am leaving. . . . And these two are analyzed just the same as The fact (that) I was leaving . . . .

The earlier discussion of the colon also explains why one can symbolize a noun clause as a kind of "direct object," even though a "sentence object" obviously does not receive the action of the verb:

$$He\ was\ aware\ (of)\ \ (the\ fact)\ \ (that)\ \underbrace{you\ loved\ her.}_{}\qquad (4.88)$$
$$t_1 \qquad 2^R \qquad t_2 \qquad (u_1 \quad 2^S \quad u_2)$$
$$(=\ t_2)$$

The formulation of (4.88) collapses into one explanation three separate uses of noun clauses, as described in traditional grammars. First, if the fact is deleted, the that-clause functions as a kind of "complete direct object" in its place; second, if the object the fact is retained, it is in apposition to its more complete specification; third, in this latter case, the that-clause is also called an objective complement. The only distinction between appositional clauses and objective complement clauses seems to be that apposition is reserved to subject noun apposition and objective "complement" replaces objective "apposition," thus establishing the close relationship between "equality" and "objective" functions noted earlier. Closely related is still a fourth

traditional function of noun clauses--namely, objects of prepositions.
The verb above is <u>was aware of</u>. The preposition is actually a post-
position, a verb particle. The verb complex equals the verb <u>knew</u>:
<u>I knew it</u> = <u>I was aware of it</u>. That <u>of</u> is a particle can be supported,
thus, not only by substitution, but also by paraphrasing: <u>He knew what
I was aware of</u>, where most people would place <u>of</u> in terminal position
with the verb and not before <u>what</u>. Therefore, object and object of
preposition fall into the same category. Even if one insists the <u>of</u>
goes with what "follows" it (i.e., <u>what</u> or <u>the fact</u>), it is logical to
interpret the prepositional phrase as a direct object in traditional
terms.

Noun clauses are said to function also as indirect objects, as in
in

$$\underline{\text{He}} \;\underline{\text{related}} \;\underline{\text{the news}} \;\underline{\text{to whom(m)ever}} \;\underline{\text{would listen.}} \qquad (4.89)$$

The third term clause, of course, is not exactly "a noun or pronoun
identifying the party receiving the action in verbs of asking, giving,
telling, and receiving," as the indirect object function is defined.[12]
Only the pronoun <u>whoever</u> fits this definition; <u>would listen</u> does not
"modify" <u>whoever</u> in the sense that "modification" is usually defined;
it is predication of <u>whoever</u>. However, it does no serious harm, in
traditional terms, to call the <u>whoever</u>-clause a noun-headed clause
which functions as an indirect object which, in turn, is specified by
further predication.

The noun clause functioning as a so-called predicate complement is
also a case of <u>logical</u> apposition, though the apposite portions do not

always occur side by side grammatically:

$$\text{This house is } \underline{\text{(the place) where I live}}. \tag{4.90}$$

$$\underline{\text{This house}}\ \underline{\text{is}}\ \underline{\text{where}}\ \underline{\text{I}}\ \underline{\text{live}}. \tag{4.91}$$
$$\quad t_1 \qquad\qquad t_1 \quad t_2\ {}_2{}^R$$

$$\underline{\text{This}}\ \underline{\text{is}}\ \underline{\text{the house}}\ \underline{\text{where}}\ \underline{\text{I}}\ \underline{\text{live}}. \tag{4.92}$$
$$t_1 \qquad\quad t_1 \qquad\quad t_1 \quad t_2\ {}_2{}^R$$

$$\underline{\text{I}}\ \underline{\text{live}}\ \underline{\text{in this house}}. \tag{4.93}$$
$$t_2\ {}_2{}^R \qquad\quad t_1$$

Thus, the so-called adjective <u>where</u>-clause discussed earlier is actually the same logical construction as the predicate complement noun clause.

The noun clause as the object of a participle was discussed previously. It usually turns out to be an implicational:

$$\underline{\text{Considering what you should know}},$$
$$\text{you are making a mistake.} \tag{4.94}$$

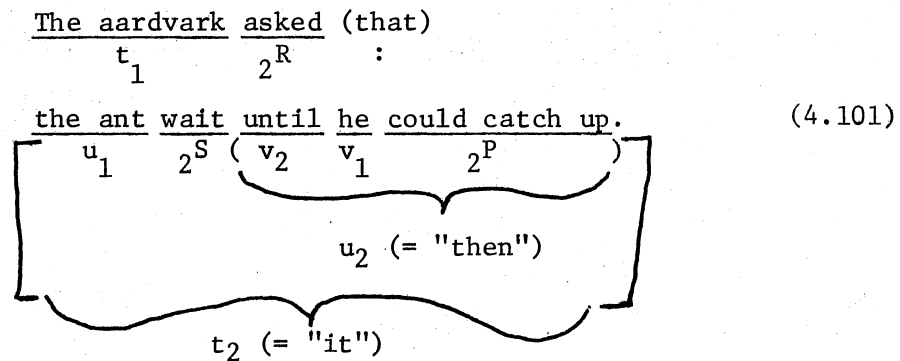$$t_2\ (=\ \text{"it"})$$

$$\underbrace{\text{you are making a mistake}}_{X}. \tag{4.95}$$

The noun clause as the object of the infinitive has also been met with before. The following is typical, and it, too, usually turns out to be an object:

$$\text{He commanded me } \underline{\text{to fight whoever showed up}}. \tag{4.96}$$

Converting to subjunctive mood with an appropriate verb produces

$$\text{He demanded (that) I fight (with) whoever showed up.} \quad (4.97)$$

He demanded (that) I fight (with) whoever showed up.   (4.97)
$t_1 \quad 2^R \quad : \quad [u_1 \quad 2^S \quad (\quad a \quad F \quad)$

$u_2 \; (= \text{"them"})$

$t_2 \; (= \text{"it"})$

Other possibilities for participles and infinitives may be seen by substituting subordinate clauses in the examples in Chapter II.

Adverbial clauses are said to be capable of modifying verbs, infinitives, participles, adjectives, and adverbs. In the case of verb modification, the modifying clause is usually a temporal or locative expression. These latter expressions do not logically modify verbs, however; they set the time or place for the whole sentence situation. Examples are:

He ordered supper before (= when) I arrived.   (4.98)
$t_1 \quad 3^R \quad t_2 \quad (\quad u_2 \quad u_1 \; 2^S \quad)$

$t_3 \; (= \text{"then"})$

The plane landed where the runway was slick.   (4.99)
$u_1 \quad 2^S \quad (\quad t_2 \quad t_1 \quad 2^R \quad)$

$u_2 \; (= \text{"there"})$

The "then" and "there" interpretations accord with traditionalist and structuralist views. In reality, the clauses do much more than indicate time or place; a more precise logical interpretation would be the complex propositions without the "then" and "there" paraphrases.

An example of infinitive modification by an adverbial subordinate clause is

The aardvark asked the ant to wait until he could catch up. (4.100)

Converting to the subjunctieve mood for easier formulation, the result

is

$$
\underline{\text{The aardvark}} \; \underline{\text{asked}} \; \text{(that)}
$$
$$
\phantom{\text{The a}} t_1 \quad {}_2{}^R \qquad :
$$

$$
\underline{\text{the ant}} \; \underline{\text{wait}} \; \underline{\text{until}} \; \underline{\text{he}} \; \underline{\text{could catch up}}. \qquad (4.101)
$$

$$
\begin{bmatrix} u_1 & {}_2{}^S & (& v_2 & v_1 & {}_2{}^P &) \end{bmatrix}
$$

$$
u_2 \; (= \text{"then"})
$$

$$
t_2 \; (= \text{"it"})
$$

The subordinate clause does not modify <u>wait</u>, but <u>the ant wait</u>; it is

possible that <u>until</u> should be included in the <u>ant wait until</u>, but it

is here interpreted to mean <u>until such time</u>, for it seems to be a

connective belonging to both of the last two clauses. In any event,

the main relationships are not changed, no matter how <u>until</u> is handled.

The adverbial clause as a modifier of a participle may be illus-

trated in the following sentence:

$$
\text{I saw him } \underline{\text{running as if his life were in danger}}, \qquad (4.102)
$$

which, paraphrased, becomes

$$
\underline{\text{I}} \; \underline{\text{saw}} \; \text{that}
$$
$$
t_1 \quad {}_2{}^R \qquad :
$$

$$
\underline{\text{he}} \; \underline{\text{was running}} \; \text{as if (something)} \; \underline{\text{endangered}} \; \underline{\text{his life}}. \quad (4.103)
$$

$$
\begin{bmatrix} (a & F &) & (& \hat{t}_1 & {}_2{}^S & t_2 &) \end{bmatrix}
$$

$$
t_2 \; (= \text{"it"})
$$
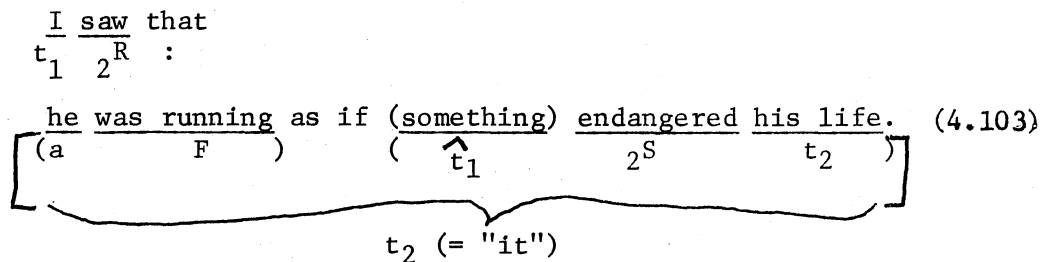
The subordinate clause does not modify <u>running</u>, but rather <u>his running</u>

(i.e., the fact that <u>he was running</u>), in the sense that one clause is

operating on another clause. The unsymbolized expression <u>as if</u>

implies comparison; hence, the last two parenthesized clauses are juxtaposed as a kind of compound object representing what I saw. Structuralists would interpret the last clause as a manner substitute (e.g., _swiftly_), but this ignores the subject _he_ (_his running_). When two propositions are juxtaposed without an overt connective, it is assumed one is acting as a kind of argument, the other as a kind of function:

$$\text{He was running as if (something) endangered his life.} \quad (4.104)$$

(English often juxtaposes sentences this way--e.g., _I know you will_; the so-called "object" clause is really a higher-level "function," and the "subject" clause is a higher-level "argument.")

Adverbial clauses that modify adjectives are usually misinterpreted by traditionalists (and others). The adjectives are usually disguised verbs. Conlin cites two such cases:[13]

The decision of the jury made him more angry
    than we had expected.   (4.105)
The little boy was sorry _that he hit his brother_.   (4.106)

Paraphrasing produces

$$\text{The jury's decision angered him more than we had expected.} \quad (4.107)$$

That he (had) hit his brother saddened the little boy. (4.108)

$$\left[\underbrace{\left(\underbrace{t_1 \quad 2^R \quad t_2}_{u_1 \; (= \text{"it"})}\right) 2^S \quad \left(\underbrace{F \quad a}_{u_2 \; (= \text{"him"})}\right)}\right]$$

Sentence (4.107) is similar to the one concerning participial modification. <u>Than</u> is a comparative connective expression (comparing two propositions), and <u>more</u> is merely a quantifier-"adverb" modifier of <u>angered</u>. The sentence, for example, might be re-paraphrased, changing the meaning comparison to a definite expression to show the link-up of the two clauses:

The jury's having angered him . . . . (4.109)

or

<u>The jury's making him angry</u> was <u>what</u> <u>we</u> <u>had expected</u>, (4.110)

$$\text{t}_2 \qquad\qquad : \quad \text{t}_2 \; \text{t}_1 \qquad 2^R$$

which is tantamount to <u>The jury's angering of him was</u> . . . . or <u>We had expected it: The jury angered him</u>—a form that has been met with before in this chapter. Example (4.108) is like several cited in Chapters II and III, and needs no further explanation other than to reiterate that <u>made</u> plus adjective equals verb (or quasi-verb). The verb, that is, in (4.108) <u>made</u> (understood) plus <u>sorry</u>. The verb <u>sorrowed</u> does exist, but is not much used in standard English, hence the change to the synonymous verb <u>saddened</u>. In non-standard English, however, one can sometimes hear an expression such as <u>The jury's decision sorrowed him</u>.

Adverb modification by adverbial clauses involves comparison such as (4.105) above:

The package arrived <u>more quickly than we expected</u>.   (4.111)
The package arrived <u>quicker than we expected</u>.   (4.112)
(a $_F1$ $_F2$) (b   G   )

<u>Quicker</u> has absorbed the quantifier-"adverb" <u>more</u> in this formulation. Again, one proposition can be said to operate on the other. Paraphrased, the connection is clear: <u>We didn't expect the package to arrive so quickly.</u> Such comparisons are more complex forms of sentences such as <u>John is bigger than Max</u>, described in Chapter II, where <u>more</u> was implied in the suffix <u>-er</u> but was not symbolized. In English, <u>than</u> acts as a comparative connective of two clauses, the second of which need not be completely overt.

A peculiar sort of complex sentence is that which is termed "cleft." Its formation is used as a test by some transformational grammarians to identify possible nouns or noun phrases, though the method is admitted to be fallible at times.[14] The idea that cleft sentences can help to identify nouns is misconceived, but the purpose here is not (exactly) to disprove this idea. The purpose is to show that even though the cleft sentence is an expansion of a smaller sentence, the dependent clause in a cleft sentence is not dependent in the usual sense.

Cleft Sentences and Similar Forms

To form a cleft sentence, one takes a sentence such as <u>He likes to play (= playing) ball</u> and adds <u>what</u> in front of it and also adds a form of <u>be</u> at the end of it:

        *What he likes to play (= playing) ball is;   (4.113)

then one transposes some expression within this string to the end; if a

grammatical sentence results, then everything to the right of <u>be</u> is a "noun":

What he likes (to do) is to play (= playing) ball.   (4.114)

It will be noted that after performing the aforesaid operations, nothing can be moved to the end of the sentence without sacrificing grammatically, so it is impossible to identify any noun in this sentence by this method!

However, the following transformations can be made:

To play (= playing) ball is <u>what he likes</u> (to **do**).   (4.115)
Ball is <u>what he likes</u> to play (= playing).   (4.116)
<u>What he likes</u> to play (= playing) is ball.   (4.117)

In all four possible formulations listed above, (4.114-4.117), the "dependent" <u>what</u>-clause seems, in traditional terms, to be functioning as a predicate nominative or as a subject (4.114). But in no case is the <u>proposition</u> on the left semantically equivalent to the <u>proposition</u> on the right; in fact, in two cases, (4.116-4.117), only <u>ball</u> occurs either as a subject or as a predicate nominative. Thus, one cannot tell whether the subject is <u>Ball</u> or <u>to play (= playing) ball</u>. One can only assume, however, that the true subject is <u>To play (= playing) ball</u> because this whole proposition is what is referred to by the <u>what</u>-clause.

Of all the infinitive (and participle) examples cited in this work, sentence (4.115) is, perhaps, the best one illustrating the traditional idea that infinitive and participial clauses may function as nouns. One knows this is an incorrect anlaysis, however, for the construction <u>began</u> with a sentence in which even traditionalists

would say that <u>He</u> is the subject of both <u>likes</u> and the infinitive:

$$\underbrace{\underline{\text{He}}}_{u_1}\ \underbrace{\underline{\text{likes}}}_{2^S}\ \overbrace{(\ \underbrace{(\text{himself})}_{t_1}\ \underline{\text{to play}}\ (=\underline{\text{playing}})\ \underline{\text{ball}}.}^{2^R}\ \underbrace{}_{t_2}\ )\quad(4.118)$$

$$(= u_1)$$

$$u_2\ (=\text{"it," "what"})$$

Formulation (4.118), though it lacks stylistic smoothness because of

possible ambiguity, expresses the traditional view fairly well. (<u>Him-</u>

<u>self</u> is being used in its emphatic sense.) But the "object" propo-

sition is not acted upon by the verb <u>likes</u>; it refers to <u>What he</u>

<u>likes (to do)</u>. Still, one cannot deduce that what he likes to do is

equivalent with the <u>description</u> of what he likes to do; a kind of

apposition is, in fact, what is implied. In answer to the question,

"What does he like (to do)?", the answer might be

He likes what? (Why,) to play (=playing) ball (of course), (4.119)

which is equivalent, once the topic is known, to the sentence

He likes <u>that</u> (= <u>what he likes</u>): to play (=playing) ball. (4.120)

The underlined portion in (4.120), just like the colon, indicates

the connection purpose of <u>what</u> as well as the fact that <u>what</u> is

standing semantically as a one-word substitution instance of the

following proposition; hence, the topic (subject) of the sentence--

i.e., the logical argument--is a proposition. Thus, the "argument"

is a higher-level abstraction. If one does not wish to extend the

logical notation into greater complexity, the proper formulation of the

sentence, when the topic (argument) is in its normal first-slot position,

is

$$
\begin{array}{c}
\underline{\text{What}} \ \underline{\text{he}} \ \underline{\text{likes}} \ \text{(to do)} \ \text{is} \\
(\quad u_2 \quad u_1 \quad {}_2{}^S \qquad\qquad) \quad : \\
\hline
a
\end{array}
$$

$$
\begin{array}{c}
\text{(for)} \ (\underline{\text{himself}}) \ \underline{\text{to play}} \ (= \underline{\text{playing}}) \ \underline{\text{ball}}. \\
(\qquad\quad \widehat{t_1} \qquad\qquad {}_2{}^R \qquad\qquad t_2 \ ) \\
\hline
F
\end{array}
\qquad (4.121)
$$

What formulation (4.121) amounts to is a side-by-side apposition

of sorts; i.e., the last clause predicates more specifically the topic

only suggested by the first clause (that he likes to do something).

It is a juxtaposition just like $\underline{\text{Mark Twain the author}}$, except that

while predication exists in $\underline{\text{the author}}$ (equality), it exists above not

as an exact equality, but as a more complete specification of $\underline{\text{he likes}}$

$\underline{\text{(something)}}$. This formulation also allows one to ignore the problem

of whether $\underline{\text{ball}}$ or $\underline{\text{to play}}$ $(= \underline{\text{playing}})$ $\underline{\text{ball}}$ is a major unit because of

the idea of logical relationship. Thus, formula (4.121) illustrates

that $\underline{\text{What he likes}}$ is dependent on the last clause; and that the last

clause is also dependent upon the first clause! In such a sentence,

the clauses are mutually dependent.

Though similar in appearance to cleft sentences, the following

examples are quite different:

$$
\begin{array}{c}
\underline{\text{How}} \ \underline{\text{Mary}} \ \underline{\text{did}} \ \underline{\text{it}} \ \text{I} \ \text{don't} \ \text{know} \ / \\
\text{I} \ \underline{\text{do not}} \ \underline{\text{know}} \ \underline{\text{how}} \ \underline{\text{Mary}} \ \underline{\text{did}} \ \underline{\text{it}}. \\
- \ \Big[t_1 \qquad {}_2{}^R \qquad\quad t_2 \ (\ u_1 \quad {}_2{}^S \ u_2) \Big]
\end{array}
\qquad (4.122)
$$

$$
\begin{array}{c}
\underline{\text{When}} \ \underline{\text{Mary}} \ \underline{\text{did}} \ \underline{\text{it}} \ \text{I} \ \text{don't} \ \text{know} \ / \\
\text{I} \ \underline{\text{do not}} \ \underline{\text{know}} \ \underline{\text{when}} \ \underline{\text{Mary}} \ \underline{\text{did}} \ \underline{\text{it}}. \\
- \ \Big[t_1 \qquad {}_2{}^R \qquad\quad t_2 \ (\ u_1 \quad {}_2{}^S \ u_2) \Big]
\end{array}
\qquad (4.123)
$$

$$
\begin{array}{c}
\underline{\text{Who}} \ \underline{\text{Mary}} \ \underline{\text{is}} \ \text{I} \ \text{don't} \ \text{know} \ / \\
\text{I} \ \underline{\text{do not}} \ \underline{\text{know}} \ \underline{\text{who}} \ \underline{\text{Mary}} \ \underline{\text{is}} \ (= \underline{\text{can be}}). \\
- \ \Big[t_1 \qquad {}_2{}^R \qquad\quad t_2 \ (\ a \qquad\qquad F \qquad) \Big]
\end{array}
\qquad (4.124)
$$

Where Mary is I don't know /
I do not know where Mary is (= can be).   (4.125)
$$-\left[t_1 \quad {}_2{}^R \quad t_2 \; (\; a \quad\quad F \quad\quad)\right]$$

Why Mary lives here, I don't know /
I do not know why Mary lives here.   (4.126)
$$-\left[t_1 \quad {}_2{}^R \quad t_2 \; (\; u_1 \quad {}_2{}^S \quad u_2 \;)\right]$$

Whose house Mary bought I don't know/
I do not know whose house Mary bought.   (4.127)
$$-\left[t_1 \quad {}_2{}^R \quad t_2 \quad (\; a \quad F \quad)\right]$$

In each case above, (4.122-4.127), the WH-question words refer to a
time, place, etc. common to both clauses; i.e., each could be a term
in the last clause instead of the first clause. Thus, they are
connectives which "compound" two clauses that are mutually dependent.
Furthermore, none of the last clauses may be interpreted as an "object"
of know because of the meanings of the connectives; yet know implies
some thing ("object"). Also, the scope of negation in each sentence
spans both clauses, proving that I do not know is not an independent
clause. In (4.127), it is interesting to note, the connective also
contains a noun (whose house).

Compound-Complex Sentences

The so-called compound-complex sentence is merely a sentence
which contains at least two independent clauses and one dependent
clause; although more complicated, the compound-complex sentence is
analyzed along the same lines as other examples given throughout this
section. In a sentence such as

He sold his house and, unless I miss my guess,
he made a profit,   (4.128)

the extreme clauses are independent, and the mean clause is dependent.

The last two clauses are, however, logically connected, as the paraphrase below demonstrates:

$$\begin{array}{l} \underbrace{\text{He}}_{} \; \underbrace{\text{sold}}_{} \; \underbrace{\text{his house}}_{} \; \text{and} \\ (t_1 \quad 2^R \qquad t_2 \qquad) \; \& \\[6pt] \underbrace{\text{if}}_{} \; \underbrace{\text{I}}_{} \; \underbrace{\text{don't miss}}_{} \; \underbrace{\text{my guess}}_{}, \quad \underbrace{\text{he}}_{} \; \underbrace{\text{made}}_{} \; \underbrace{\text{a profit}}_{}, \\ [\; -(u_1 \qquad 2^S \qquad u_2 \quad) \rightarrow (v_1 \quad 2^P \quad v_2 \quad) \end{array} \qquad (4.129)$$

which is semantically equivalent to

$$\underbrace{\text{He}}_{} \; \underbrace{\text{sold}}_{} \; \underbrace{\text{his house}}_{} \; \text{and, } \underbrace{\text{unless}}_{} \; \underbrace{\text{I}}_{} \; \underbrace{\text{misjudge}}_{}, \quad \underbrace{\text{he}}_{} \; \underbrace{\text{profited.}}_{} \qquad (4.130)$$
$$(t_1 \quad 2^R \qquad t_2 \qquad) \; \& \; [\qquad (a \quad F \quad) \rightarrow (b \qquad G \quad)]$$

In (4.130), $b = t_1$ and negation has been absorbed by the verb; (4.129) is thus an expansion of (4.130). The main logical problem in either case is the scope of the implication. An alternate possibility is

$$\begin{array}{l} \underbrace{\text{If}}_{} \; \underbrace{\text{I}}_{} \; \underbrace{\text{don't miss}}_{} \; \underbrace{\text{my guess}}_{}, \quad \underbrace{\text{he}}_{} \; \underbrace{\text{sold}}_{} \; \underbrace{\text{his house}}_{} \; \text{and} \\ -(u_1 \qquad 2^S \qquad u_2 \quad) \rightarrow [(t_1 \quad 2^R \qquad t_2 \qquad) \; \& \\[6pt] \underbrace{\text{he}}_{} \; \underbrace{\text{made}}_{} \; \underbrace{\text{a profit.}}_{} \\ (v_1 \quad 2^P \qquad v_2 \quad)] \end{array} \qquad (4.131)$$

Example (4.131) demonstrates the fallibility of the concept "compound-complex," for the example shows that all the clauses are dependent upon each other for the complete meaning--and a sentence traditionally is said to convey a "complete thought."

A similar problem can be shown in disjunctive compound-complex sentences:

Either he or you will go, or when I am done, I will go. (4.132)

Paraphrased, (4.132) becomes implicational:

$$\begin{array}{l} \underbrace{\text{If}}_{} \; \underbrace{\text{he}}_{} \; \underbrace{\text{doesn't go}}_{} \; \text{or} \; \underbrace{\text{you}}_{} \; \underbrace{\text{don't go}}_{}, \; \text{then} \; \underbrace{\text{I}}_{} \; \underbrace{\text{will go}}_{} \; \underbrace{\text{when}}_{} \; \underbrace{\text{I}}_{} \; \underbrace{\text{finish.}}_{} \\ [\; -(a \qquad F \qquad) \vee -(b \qquad G \qquad) \rightarrow [u_1 \quad 2^S \quad \underbrace{(t_2 \quad t_1 \quad 2^R}_{} \;)] \end{array} \qquad (4.133)$$

$$u_2 \; (= \text{"then"})$$

The negations in (4.133) seemed implied by (4.132). If one insists

that negation is not meant, then other problems of logical scope

arise, and the whole sentence becomes a disjunction, not an implication:

$$
\left\{
\begin{array}{l}
\text{(Either) } \underline{\text{he}} \ \underline{\text{will}} \ \underline{\text{go}} \text{ or } \underline{\text{you}} \ \underline{\text{will}} \ \underline{\text{go}} \text{ or} \\
(\qquad\quad a \qquad F \ )\mathbf{v} \ (\ b \qquad G \quad) \ v \\[2ex]
\left[\underline{\text{I}} \ \underline{\text{will}} \ \underline{\text{go}} \ \underline{\text{when}} \ \underline{\text{I}} \ \underline{\text{finish.}} \atop u_1 \ 2^S \quad (t_2 \ t_1 \ 2^R \ ) \right]
\end{array}
\right\}
$$

$$u_2 \ (= \text{"then"})$$

(4.134)

However, as in previous sentences dealing with _when_-clauses, _when_

seems also to be a connective. For example, the dependent clause may

be essentially inseparable from the main clause with which it is

related:

$$
\begin{array}{l}
\text{(Either) } \underline{\text{he}} \ \underline{\text{will}} \ \underline{\text{go}} \text{ or } \underline{\text{you}} \ \underline{\text{will}} \ \underline{\text{go}} \text{ or} \\
(\qquad\quad a \qquad F \ ) \ v(\ b \qquad G \quad) \ v \\[2ex]
\left[\underline{\text{I}} \ \underline{\text{will}} \ \underline{\text{go}} \ \underline{\text{at}} \ \underline{\text{the}} \ \underline{\text{time}} \ \underline{\text{when}} \ \underline{\text{I}} \ \underline{\text{finish.}} \atop (u_1 \ 2^S \qquad u_2 \ )(\ u_2 \ u_1 \ 2^R \ ) \right]
\end{array}
$$

(4.135)

The same symbols (u's) have been retained in both of the last two

clauses in order to visually show their interconnection more closely.

Since the last two clauses are so clearly interconnected (by the time

and subject terms), and since the last bracketed expression is in

equal disjunction with the other two "independent" clauses, the dis-

tinction between independent and dependent, if not lacking, is at

least extremely blurred.

In the above example, one formulation (4.133), showed that the

disjunction could imply a consequence containing a complex sentence.

The reverse is also possible:

> An accident may result in death or injury
> when one is careless. (4.136)

In (4.136), while <u>when</u> (= <u>whenever</u>) may refer to time, it also carries the force of <u>if</u>:

> If (= when) one is careless, an accident or
> death may result, (4.137)

where the last clause is a disjunction:

> When (= if) <u>one</u> <u>is careless</u>,
> (a   F   )→
>
> <u>an accident</u> <u>may result</u> or <u>death</u> <u>may result</u>. (4.138)
> [(b   G   ) v (c   G   )]

The function <u>G</u> (= <u>result</u>) has been retained in both of the last two clauses to show that they are <u>not</u> independent of each other; i.e., two propositions are not necessarily implied, for the <u>vel</u> (v) means <u>and</u> / <u>or</u>; hence, if the carelessness of someone results in an accident which causes death, then none of the clauses are logically independent, for each depends upon the other. Further, since accident <u>may</u> (= <u>if</u>) result in (= <u>cause</u>) death, sentence (4.138) could be interpreted as a double implicational, thus re-enforcing the mutual inseparability of the three clauses:

> {When (= if) <u>one</u> <u>is careless</u>, (then) if an <u>accident</u> <u>results</u>, (4.139)
> [(a   F   ) → (b   G)]
> (then) <u>death</u> <u>may result</u>.
> → (c   G   )}

The outer braces, which are optional, have been supplied to visually stress the interdependency of the clauses.

Loose and Periodic Sentences

Category Overlapping

Still different complications arise in the analysis of other compound-complex sentences, but enough examples have been adduced so far to show that the conception (definition) of such a sentence type is ill-conceived. This contention is further proven by a brief analysis of an example of a "simple" sentence cited by Crews:[15]

> Seeing the sign announcing a half-price fire sale on "Win with Wilkie" buttons, Sam leaped up and pulled the cord so as to get the bus driver to let him off at the next corner. (4.140)

Logically, the first clause contains two subordinate clauses, for it is equivalent to When he saw the sign which announced. . . . The second clause contains two obvious independent clauses: Sam leaped up and Sam pulled the cord; also, there are two infinitive clauses embedded in the Sam-clause, the first of which has Sam as subject and the second of which has the bus driver as subject. Moreover, there is compound modification in a half-price fire sale which implies two propositions for the announcing (= which announced)-clause. Yet, this sentence is said to be a simple sentence because "there is only one independent clause, Sam leaped up and pulled the cord, and there are no subordinate clauses."[16]

From a logical point of view, Crews' example of a "simple" sentence might seem about as compound and complex as a sentence could get! Such is not the case, however. Two writers, who profess to accept the traditional sentence type classifications, nevertheless begin their book on literary style with "The Loose Sentence" (hence,

the title of this section), for which they cite the following example:[17]

> I remember one splendid morning, all blue and silver,
> in the summer holidays when I reluctantly tore myself
> away from the task of doing nothing in particular, and
> put on a hat of some sort and picked up a walking-stick,
> and put six very bright-coloured chalks in my pocket.
>   --G. K. Chesterton, _A Piece of Chalk_   (4.141)

Not counting the separate propositions implied by the many modifications,

this sentence contains four independent clauses joined by _ands_ and

one subordinate (_when_) clause. It is therefore a traditional compound-

complex sentence. Except for its greater length, one cannot really

see the distinction between the "simple" sentence cited by Crews and

this "loose" sentence. Certainly, the traditional idea that a sentence

expresses a complete thought has gone by the board.

That the distinction between compound and complex is vague or

nonexistent has already been shown in a number of instances involving

logical scope; but what of a sentence containing a _series_ of dependent

clauses? The following is such a sentence:[18]

> When the struggle with somnolence has been fought out
> and won, when the world is all-covering darkness and
> close-pressing silence, when the tobacco suddenly takes
> on fresh vigour and fragrance and the books lie strewn
> about the table, then it seems as though all the rubbish
> and floating matter of the day's thoughts have poured
> away and only the bright, clear, and swift current of
> the mind itself remains, flowing happily and without
> impediment.
>   --Christopher Morley, _On Going to Bed_   (4.142)

Within each _when_-clause there is compounding by _ands_; in the first two,

they are re-inferences of further _when_-clauses; in the third, there

is not only a second _when_-clause inferred (by _and fragrance_), but also

an independent clause (_the books lie. . ._); and all three of these are

construed traditionally (as a unit) to be the subordinate portion of the sentence. Yet, how can this be? For the commas which separate these when-clauses imply two conjunctive ands to join them. Further, discounting modification, the then-clause contains at least four "independent" clauses (five if the participial phrase is interpreted as two clauses); but these are not really independent, for the then-clause is an obvious series of consequences which are dependent on the antecedent when-clauses (where when = if + time). Ignoring compounds implied by adjectival modifications, the complete sentence, logically, looks something like this, where each X stands for a different unanalyzed clause:

$$\left\{ \left[(X) \ \& \ (X) \right] \ \& \ \left[(X) \ \& \ (X) \right] \ \& \left[(X) \ \& \ (X) \ \& \ (X) \right] \right\} \longrightarrow$$
$$\left\{ \left[(X) \ \& \ (X) \right] \ \& \ \left[(X) \ \& \ (X) \right] \ \& \left[(X) \ \& \ (X) \right] \right\} \ . \tag{4.143}$$

The schema suggests that calling such a sentence "complex" (subordinate plus independent clauses) is certainly gratuitous. It is an implicational sentence in which the "independent" clause is conditional upon the completion of the events cited in the "dependent" clauses. Read in words, it says" <u>If such and such, and if such and such, and if such and such and such; then so and so, and so and so, and so and so.</u>

Sentence Versus Paragraph

The last two sentences, (4.141-4.142), raise a further question: What is the difference between a sentence and a paragraph? Some analysts claim that "while a sentence makes a grammatically complete

statement [whatever that means!], it usually cannot be as comprehensive

or self-sufficient as a paragraph," because the latter is "a flexible

rhetorical convention," not a definite grammatical unit.[19] Yet, the

same analysts would also claim that "the master sentence" below is

"magnificent, . . . , loose and long, constituting an entire para-

graph. . . ."[20]

> I was born in a large Welsh town at the beginning of the
> Great War--an ugly, lovely town (or so it was and is to
> me), crawling, sprawling by a long and splendid curving
> shore where truant boys and sandfield boys and old men
> from nowhere, beachcombed, idled and paddled, watched the
> dock-bound ships or the ships streaming away into wonder
> and India, magic and China, countries bright with oranges
> and loud with lions; threw stones into the sea for the
> barking outcast dogs; made castles and forts and harbours
> and race tracks in the sand; and on Saturday afternoons
> listened to the brass band, watched the Punch and Judy,
> or hung about on the fringes of the crowd to hear the
> fierce religious speakers who shouted at the sea, as
> though it were wicked and wrong to roll in and out like
> that, white-horsed and full of fishes.   (4.144)
>   --Dylan Thomas, Quite Early One Morning

If (4.144) is a sentence-paragraph because it is "grammatically

complete" and "rhetorically flexible," then a sentence, apparently,

can be a rhetorical unit, and a paragraph can be grammatically complete!

What this seeming paradox demonstrates is the need for more precise

definitions of "sentence" and "paragraph." Yet, it also demonstrates

perhaps, that no such absolute division can be established. As Frege

said, words are defined by their uses in sentences--i.e., the meanings

of words derive from social situations. So do meanings of sentences.

If a sentence is a "complete thought," it is so only by virtue of the

fact that its meaning is supported by information which is understood

by the hearer (or reader). It seems quite probable that most traditional

grammarians have known this; for their own classifications of sentences

(see Chapter II) have been shown to overlap inexorably from the most simple, through modified forms of various degrees of intricacy, up to and including compound-complex; and the latter type has just been shown to merge into the paragraph category.

While there is a good deal of inaccuracy in traditional grammatical analysis, the idea that a sentence can, in some instances, be a paragraph is insightful, even if it is not clearly explained. The basic grammatical unit, in other words, may not be the word or the sentence, or the paragraph; it may be the topic of discussion, plus any and all predications applied to it. Thus, a relatively long stretch of discourse on some general topic is subdivided into chapters, sections, and paragraphs; but each of these parts simply deal with smaller areas of the same or related topics; and within the paragraphs of these parts, the sentences—complete or incomplete—tend to re-enforce each other by further subdividing the already subdivided topic(s) and they do this by predications that ultimately impinge on one another.

Of course, it is impractical to accept a very general topic as the basic grammatical unit because it is unmanageable. However, if one accepts the word-sentence continuum as the basic workable unit, it still is necessary to realize that such a decision is a compromise; almost any sentence implies (or leads to) further information, hence further logico-grammatical entanglements. Thus, within the word-sentence continuum, as the basic grammatical unit, the predication reigns supreme over the various "topics" contained in the sentence (subject, objects, etc.), but not necessarily over the other sentences with which it is, nevertheless, related. The following sentences from the Bible will

help to make this problem of predicational scope clear:[21]

> And the whole multitude of them arose,
> and led him unto Pilate.   (4.145)
>
> And they began to accuse him, saying . . . .   (4.146)

Both (4.145) and (4.146) are traditional one-sentence-paragraphs;

(4.145) is conjoined to a similar conjunctive one-sentence-paragraph

which comprises the end of Chapter 22 in St. Luke; (4.146) is conjoined

to (4.145) and to another conjunctive sentence which follows it (not

cited) in the next paragraph of the Biblical text. Thus, all these

sentences and paragraphs are "related" rhetorically because the same

arguments (terms) occur in each; but these sentences are all predicated

differently, and each sentence is merely tacked onto the other in turn.

Given the truth of each sentence, it makes little difference whether

they occupy one paragraph (as one long sentence or several short

sentences) or several paragraphs. All of the paragraphs in Chapter 23

of St. Luke, in fact, deal with one topic: the events leading up to

the condemnation and consequent crucifixion. The style of paragraphing

is, therefore, one of personal choice--the choice being dictated by

such things as emphasis and the style of writing current at the time.

(How or whether the style of the King James Version differs from that

of its non-English sources is not known to the present writer.) The

essential difference between the Dylan Thomas sentence-paragraph,

(4.144), and the multi-paragraph passage cited from St. Luke, (4.145-

4.146), is one of "smooth continuity" versus "dramatic separation."

They are both just a long series of conjunctions on a single, general

topic. Within each conjunctive clause (sentence), however, the

predicate contained therein operates only on the terms therein, despite

the fact that the same terms occur elsewhere as well.

Logico-Grammatical Confusion

What has been said of conjunctions (ands) does not apply to all

logical words; hence, in non-conjunctive, molecular (non-simple)

sentences, the predications are not so neatly contained. This situation

has been met with before. For example, disjunctive sentences con-

taining the inclusive or are tantamount (according to logicians) to

if-then implicational sentences, as the following case shows:[22]

<div style="margin-left:2em;">

Either you stop or you'll get hurt.   (4.147)
If you do not stop that, then you'll get hurt.   (4.148)

</div>

Assuming the truth of all the component (atomic) propositions above,

the complex (molecular) propositions are also true, just as in conjunc-

tive sentences. However, in logic only one of the atomic propositions

needs to be true for the whole molecular disjunctive proposition to

be true. On the other hand, in the implicational sentence, it is only

necessary that a false consequent not result from a true premise; i.e.,

even if both atomic propositions are false, the molecular proposition

is still true. In fact, the first proposition can be false and the

second one true for the whole molecular proposition to be regarded as

true. Many logicians have long been dissatisfied with this intuitively

objectionable state of affairs with regard to the implicational (even

though it works in mathematics). Part of the problem seems to be

that few logicians recognize (as do traditional grammarians with their

concept of "coordination") that an apparent disjunctive is sometimes

actually a conjunctive semantically in a natural language such as

English. That is, (4.147) and (4.148) could be re-phrased as

> Stop that <u>and</u> you'll not get hurt.   (4.149)
> <u>If</u> you stop that, <u>then</u> you'll not get hurt.   (4.150)

As can be seen by comparison, the negation-scope elements (<u>either</u> and

<u>not</u>) in the first pair (4.147-4.148), have been shifted to the last

atomic propositions in the second pair, (4.149-4.150), above. In

(4.149-4.150), since the implicational form is obviously a transformation

of the conjunctive form; and since a conjunctive form requires both

atomic propositions to be true for the molecular proposition to be

true; the conjunctive form should be given primacy in establishing

truth-values.

For rhetorical effect, a series of disjunctions could be written

(or spoken) as separate sentences, just as conjunctive sentences were

in the passage from St. Luke, but closer attention must be paid to the

possibility of overlapping predication:

> Caesar will come, <u>or</u> we will lose the battle.   (4.151)
> <u>Or</u> if he doesn't bring a large army, we will lose.   (4.152)
> <u>Or</u> if the gods are against us, we will lose.   (4.153)

Schematically, these may be stated as

$$\left[- (W) \ v - (X) \ v \ (Y) \right] \longrightarrow (Z), \qquad (4.154)$$

which, translated, becomes

> If Caesar doesn't come, or if he doesn't bring
> a large army, or if the gods are against us,
> then we will lose the battle.   (4.155)

The Chesterton (4.141) and Thomas (4.144) sentences are called

"loose" by some traditional grammarians. (So would the Crews sentence

(4.140) be called "loose," if it had not been classified as "simple" by

traditionalists.) It is said that "in a loose sentence the basic

grammatical form and meaning are completed near the beginning or the

middle; qualifying phrases and clauses follow."[23] The Morley sentence

(4.142) is closer in form to the so-called "periodic" sentence of

which it is said that "sentence form and meaning are completed only

near the end."[24] An example of a periodic sentence is:[25]

> To believe your own thought, to believe that
> what is true for you in your private heart
> is true for all men--that is genius.
>   --Ralph Waldo Emerson, "Self-Reliance"　　　　(4.156)

There are several possible ways to interpret (4.156), but <u>all</u> inter-

pretations require that the predication (<u>is genius</u>) span more than the

"sentence" <u>that is genius</u>. First, the sentence is an appositive: the

two infinitive clauses are specifications in detail of characteristics

of <u>genius</u>; the sentence could have been written as <u>It is genius to</u>

<u>believe your own thought and to believe that what is true for you . . . </u>,

where the comma in the original version has here been interpreted as

a conjunction. Second, perhaps <u>either</u> condition represented by the

first two propositions in the quotation would be sufficient for genius--

i.e., a disjunction may be meant: <u>One should believe his own thought</u>

or <u>One should believe that what is true for him is true for others</u>;

in this case, the inclusive <u>or</u> (= <u>and</u> / <u>or</u>) or the exclusive <u>or</u>

might be meant, for the second infinitive clause would seem to imply

the first as part of its meaning. Third, and this seems to **the**

present writer to be the intended interpretation, the sentence is an

implicational-appositive, which may be schematized thus:

$$\begin{bmatrix} \underline{\text{(If one believes his own thought)}} \text{ and} \\ (\qquad\qquad X \qquad\qquad)\ \& \\[4pt] \underline{\text{(if one believes what is true ...)}}, \text{ then } \underline{\text{that is genius.}} \\ (\qquad\qquad Y \qquad\qquad)\end{bmatrix} \rightarrow (\ T \quad = \quad G\ ) \qquad (4.157)$$

T = (X + Y)

The sentence symbolism in (4.157) is interpreted to mean that the clauses X and Y are the sum total of the characteristics of genius. If one were referring especially to the class of humans who were geniuses, then genius, being a subset of humans, would require that some person who had the required characteristics would be a member of the set of geniuses. However, what seems to be meant here is the qualities of genius ("adjective") itself, not people--hence, the use of the equality symbol; i.e., X + Y is in some sense "equivalent" to (leads to) G (genius). It would be wrong to interpret the then-clause as independent, and the if-clauses (infinitive clauses) as subordinate, for the if-clauses are in apposition to genius because they define what the term means (according to Emerson). Thus, the same primary predication (equality) applies throughout the sentence. The Emerson sentence (4.156), is actually a mere juxtaposition, where the dash serves as a biconditional equivalence relation sign. Implication and equality may be one. In strictly logical terms, the equality sign would be read "if and only if" and would be symbolized in logic texts by a triple bar (≡); however, this symbolism will not be further mentioned or used in this text. Stated more simply, if the two if-clauses imply the then-clause, then the then-clause also implies the two if-clauses; in the symbolism used in this work, two reversed arrows (←→) would technically be needed, and, in fact, many books on logic use the double-arrow symbol. The single-arrow symbolism has

been employed in formula (4.157) to stress the difference between a
label (T) for genius (G) and a specification (X + Y) for genius;
anyway, Emerson probably means that the two beliefs must first exist
before genius becomes manifest because genius is a composite of the
two beliefs, not a thing-in-itself.

Loose and periodic sentences are a fitting subject with which to
conclude the discussion of sentence types, for they, as has been
demonstrated, span the whole traditional array of forms--from simple
through compound and complex to compound-complex, and finally even to
paragraphs and beyond.

FOOTNOTES

[1]Roderick A. Jacobs and Peter S. Rosenbaum, An Introduction to Transformational Grammar: Grammar 4 (Boston, 1970), pp. 42-45.

[2]Ibid., p. 55.

[3]Ibid., p. 58.

[4]Ibid., p. 1.

[5]David A. Conlin, Grammar For Written English (Boston, 1961), p. 50.

[6]Ibid.

[7]Ibid.

[8]Ibid., p. 216.

[9]R. W. Zandvoort, A Handbook of English Grammar (3rd ed., Englewood Cliffs, New Jersey, 1962), p. 216.

[10]Conlin, p. 51.

[11]Cf. Conlin, p. 47.

[12]Frederick Crews, The Random House Handbook (New York, 1974), p. 162.

[13]Conlin, p. 48.

[14]Roderick A. Jacobs and Peter S. Rosenbaum, English Transformational Grammar (Waltham, Mass., 1968), pp. 39-40, 185.

[15]Crews, p. 166.

[16]Ibid.

[17]Winston Weathers and Otis Winchester, Copy and Compose: A Guide to Prose Style (Englewood Cliffs, New Jersey, 1969), p. 8. See the authors' introductory comment also, p. 6.

[18]Ibid., p. 74.

[19]Ibid., p. 84.

[20]Weathers and Winchester, p. 82.

[21]Luke 23:1-2.

[22]Hughes Leblanc and William A. Wisdom, <u>Deductive Logic</u> (Boston, 1972), p. 14.

[23]Gerald Levin, <u>Prose Models</u> (3rd ed., New York, 1975), p. 112.

[24]Ibid.

[25]Ibid.

CHAPTER V

CONCLUSION

Recapitulation

Purpose

In the Introduction, it was claimed that the main purpose of this work was to present an elementary logical grammar of English. It was also stated that this was not to be considered a theoretical work primarily, but a work with a practical, pedagogical bias. However, certain ground rules had to be established, and these turned out to be tantamount to a use-theory of language, suggested by the work of Frege, Wittgenstein, and Hemphill. But in spite of the numerous theoretical remarks made in this work presently under investigation to further the logico-grammatical exposition, the purpose has not been to establish a basis for a new theory of language. Based as it is on a use-theory, this work is subject to all the objections that have been launched against use-theories by many philosophers and linguists. That is, for example, nothing herein will be sufficient (but it may be necessary) to explain how a child acquires language; nor what exactly is the relationship between sense and reference; nor the relationship of understanding to language use. The most that has been theoretically claimed so far is that sufficient data has been adduced to suggest a possible logical model for communication. In that which follows, a

few additional factors will be discussed concerning theory and method; and a few hints for possible future investigations will be taken up.

Linguistic Theory

It is this writer's view that a theory of <u>language</u> (versus communication) would have to encompass actual speech situations such as has been studied by Searle (<u>Speech Acts</u>) and Austin (<u>How To Do Things With Words</u>); it would also have to encompass the total socio-cultural continuum as attempted by Pike's tagmemic approach (<u>Language in Relation to a Unified Theory of the Structure of Human Behavior</u>); biological factors would have to be considered, as in the work of Lenneberg (<u>Biological Foundations of Language</u>); and, finally, neurological and cybernetic approaches would have to be taken into account, as in the work of Lamb (<u>Outline of Stratificational Grammar</u>). A comprehensive theory of <u>language</u> based upon the above mentioned kinds of data would have to be composed jointly by philosophers, psychologists, and linguists who were sufficiently conversant with the data and the philosophy of science. Thus, a linguistic study, which seeks only to establish a model for communication (not language), has more modest goals. The method used in the present work--in an extremely elementary way--most nearly resembles those used in the discipline known as formal semantics, as exemplified by the works of Montague (<u>Formal Philosophy</u>), Cresswell (<u>Logics and Languages</u>), and the new journal of <u>Theoretical Linguistics</u>. The formal semanticist does not seek to explain how we know what (we think) we know. He merely tries to set up a logical model which best explains what we do when we use language; i.e., what we must know in order to explain how language is

used. The view of the present writer is that a merging of the tools

and methods of formal semantics and transformational analysis would go

a long way toward establishing a formal theory of communication.

Barbara Partee, who has tried to correlate Montague (M) grammar,

i.e., formal semantics, with transformational grammar (T), puts it

like this:[1]

> The goal of T grammar is the characterization of all and only
> the possible human languages, in hopes of developing hypo-
> theses about structural properties of the brain. Every
> aspect of a T grammar is supposed to have "psychological
> reality," in some sufficiently abstract sense. The goal of
> M grammar is a theory of syntax and semantics of all
> languages, with no special priority given to human ones.
> Success is defined in terms of formal elegance rather than
> psychological reality.

The formal semanticist's goal, as portrayed above by Partee, is a

bit extravagant. Montague in his several articles on the subject only

claimed to have formally represented "fragments" of English. He made

no claims of having revealed universal qualities of language. He did

not try to determine what the human mind is or how it works, in contra-

distinction to Chomsky who speaks of "the particular branch of

cognitive psychology known as linguistics."[2]

Empirical Adequacy

The approach taken in the present work represents an attempt to

synthesize some ideas from the logic of relations (influenced by formal

semantics) and Chomsky's earlier, more modest programme outlined in

Syntactic Structures (1957). That is, the emphasis is on kernel

sentences (atomic propositions) to begin with, and the ways in which

they can sometimes be combined to form more complex sentences (molecular

propositions). And these combinations (transformations) are explained in terms of surface structures. In his more recent work, Chomsky himself has deserted, to some extent, the stress placed on the importance of deep structure (as developed in his <u>Aspects of the Theory of Syntax</u>, 1965). He now admits that surface structure and "shallow structure" also play a role in transformational manipulation.

In a recent, very provocative article, George Bedell says:[3]

> As a final observation on the force of the lexicalist hypothesis, we may well question the necessity of deep structure for Chomsky's proposals. After all, the work done by the lexicon in his framework is essentially independent of deep structure.

This has been exactly the contention of the present work. Regardless of where words come from or how they relate to the world, they may be considered in any linguistic problem as "given." Bedell further says:[4]

> We have now concluded our examination of the substantive arguments in support of the existence of deep structure. The only conclusion we can draw is that these arguments are completely inconclusive. There is no generalization which will be lost, or explanation which cannot be made, if deep structures . . . are not provided for in our grammatical theory.
> . . . .
> Therefore the question of whether deep structures exist or not--though apparently basic, with far-reaching implications for our appreciation of the nature of language--is one which we are quite unable to connect with any of the myriad known or otherwise currently accessible empirical facts about language.

Bedell's reference to "accessible empirical facts about language" has been a major consideration in the formation of the present work. No one, of course, would say that all thoughts represented by words are empirical. The square root of minus one, for instance, is not an

empirical fact. But the words used to express the idea are public property. Thus, in a sense, words are empirical things. If one says I have a desire to leave instead of I desire to leave, one has expressed the same thought by means of two different structures. Such an example illustrates three things: (1) One must first know what intangible thought is expressed by the sentences (though how one knows it may be impossible to answer); (2) one must further note that the thought (meaning) is not necessarily equivalent to semantics (of which more will be said presently)--in this case, the first sentence speaks of possession of a desire, while the second sentence speaks only of desiring; (3) yet the two sentences express the same propositional meaning despite the difference in linguistic semantics, which forces one to recognize that the variety of syntactic structures available to express the same meaning must simply be accepted as empirical facts (i.e., no undue emphasis should be placed on linguistic semantics as opposed to formal, philosophical semantics). (At this point, the reader should recall the discussions concerning the variant usage of pronouns--subjective, objective, and possessive--to convey the same meaning.) Therefore, regardless of the linguistic structure used to express any particular proposition, the sentence is logically a function of its component meanings, as Frege long ago declared, for it is by means of the completed structure that the hearer knows what is on the mind of the speaker; with the proviso, of course, that both the speaker and hearer share similar cultural and human conditions which the words label. Thus, meaning, linguistic semantics, and syntax are interacting parts as far as language is concerned.

Sentences Versus Propositions

The priority assigned to "logical structure" (as opposed to syn-
tactic structure) so often in this paper was first inspired by the
seemingly trivial realization that the so-called simple sentence
patterns are just the most frequently occurring forms that sentences
may take; but the same proposition, using virtually the same words,
may often take quite various forms. It is a relatively "simple" matter
to explain the variations by means of transformations. But how does
one know that these different forms do express the same proposition?
For example, how does one know that the following (differently ordered)
groups of sentences are each (within its group) the "same"?

Not one speck of dirt did she find.	(5.1)
She did not find one speck of dirt.	(5.2)
She found not one speck of dirt.	(5.3)
She didn't find a speck of dirt.	(5.4)
Find a speck of dirt, she didn't.	(5.5)
A speck of dirt she didn't find.	(5.6)
He didn't go, and she didn't either.	(5.7)
She didn't go, and he didn't either.	(5.8)
He didn't go, and neither did she.	(5.9)
She didn't go, and neither did he.	(5.10)
Neither he nor she went.	(5.11)
I went, and she went too.	(5.12)
She went, and I went too.	(5.13)
I went, and so did she.	(5.14)
She went, and so did I.	(5.15)
We both went.	(5.16)
Went we both did.	(5.17)
I must go.	(5.18)
Go I must.	(5.19)
She certainly is beautiful.	(5.20)
Beautiful she certainly is.	(5.21)
She is certainly beautiful.	(5.22)
She is beautiful, certainly.	(5.23)
Certainly, she is beautiful.	(5.24)
Beautiful she is, certainly.	(5.25)

Beautiful, certainly, she is.   (5.26)
Beautiful is she, certainly.   (5.27)
Certainly beautiful is she.   .   (5.28)

He should read the book carefully.   (5.29)
Carefully, he should read the book.   (5.30)
He should carefully read the book.   (5.31)
The book he should read carefully.   (5.32)
He should read carefully the book.   (5.33)
To carefully read the book is what he should do.   (5.34)
Carefully is the way he should read the book.   (5.35)
He should read the book with care.   (5.36)
With care he should read the book.   (5.37)
He should, with care, read the book.   (5.38)

I am not unprepared.   (5.39)
Not unprepared am I.   (5.40)
Prepared I am.   (5.41)
Prepared am I.   (5.42)

Christ is risen.   (5.43)
Christ has risen.   (Easter prayer)   (5.44)

The above list could be extended much more with further examples;
and many of the cited sentences could also be expressed in the passive
voice and in other ways. It seems reasonable to assume, therefore, that
none of these sentences are _deep_ structures from which the others (in
its group) have been derived. Why not consider them all as surface
structures obtained by means of surface transformations? The only
thing "deep" in each sentence is the proposition--i.e., how does one
know (innately?) that each group represents a single proposition? The
syntactic clues are extremely scanty, as the great variety of ordering
indicates; and there are almost no morphological alterations. Thus,
"logical structures" (i.e., propositions--whatever they are) are the
closest things to what Chomsky calls "competence," if one also rules
out cases of memory lapses, interruptions, stuttering, and the like from
examples of sentences; the overt sentences are what Chomsky calls

"performance." Accordingly, to speak of deep <u>syntactic</u> structure in any mentalistic sense seems unwise, for the "evidence" is inconclusive.

Meaning and Performance

In the long run, <u>performance</u> also includes the socio-cultural heritage and so on, for there is no doubt that the context in which an utterance is made determines to a large degree the logic of the sentences in a language; and since this is the case, it is impossible to establish an exact boundary which separates meaning from performance (life). A proposition concerning irrational numbers, for example, would mean nothing (innately) to an African Bushman--or anyone un-familiar with mathematics, for that matter--so the concept must be, at least partially, a case of cultural integration. If it were not for the fact that most people are "apathetic" (not innovative) and, hence, usually content to stick to a few well-established "patterns" of speech as a matter of easy practicality, it would almost be a joke to speak of syntactic "structures" at all. This remark, of course, is re-stricted to those "analytic" languages such as English where inflection has been reduced to a minimum in modern times.

Semantics Versus Meaning

The terms "semantic" and meaning" have been used interchangeably in the body of this work. In actuality, however (as suggested earlier in this Conclusion), a more subtle distinction needs to be made if one is going to theorize about language and communication. The point of view accepted here is similar to that expressed by the psycholinguist James Deese, who says:[5]

Grammar is the essential link in communication between
meaning and sound or meaning and symbol. Grammar provides
the means whereby one person's thoughts may become
another's. <u>Meaning itself exists apart from and prior
to particular sentences</u>. The sounds and the written
symbols that express meaning, on the other hand, are
always parts of sentences. Once meaning has been mapped
onto a sentence, that sentence has some semantic interpre-
tation. It says something. Thus, another way of looking
at grammar is to say that it is the system of rules where-
by more or less arbitrary strings of sounds or symbols
can occur in such a way as to mean something. When mean-
ing is made manifest in language it may be said to be
semantic. <u>Thus the concepts meaning and semantics are
not synonymous</u>.

In discussing propositions, then, it is Deese's "meaning" which has
been intended. As Deese further points out,[6]

> . . . the grammatical structure of language functions only in
> the interest of something else. In itself, the study of
> grammar would be only a kind of idle game, or perhaps an ob-
> scure branch of mathematics. It derives its humanistic
> importance because of the function it serves. <u>It is a power-
> ful and very general device for converting ideas into
> sentences</u>. It has the function of making communication and
> organized, abstract thinking possible. The content of
> language resides both in ideas and in sentences. <u>The con-
> tent must exist prior to and outside of the sentences of
> language, or these sentences would make no sense</u>. The re-
> lation between ideas and sentences provides the main problem
> of psycholinguistics. It is the problem of meaning.

In a very thought-provoking chapter on meaning and semantics,

Deese offers many examples to justify his comments that have just been

quoted.[7] The results of many investigations in experimental psycho-

linguistics are also alluded to in support of his (admittedly

controversial) views. For example, how can the content of sentences

exist prior to and outside of them? There are several possibilities.

Perception and imagery are two that immediately come to mind. Anthro-

pological linguists have long noted that the ways in which the people

of different cultures perceive the world seems determined largely

before they are born. An instance is a child born into a culture

wherein the people use color words differently from, for example,

English people. Some cultures divide the color spectrum into only two

or three parts. Does this mean that these people can only see two or

three colors? No. It means that their cultural life-style is such

that they ordinarily feel no need to express subtle distinctions of

color in words. English speakers have a broader band of color words

than do speakers of some other languages, but the English language,

too, is "deficient." A person may refer to something (in English) as

"pinkish" or "blackish" (="rather pink" or "rather black"), but what do

these expressions mean? Does "blackish" mean not black, but verging on

gray? If so, what is "gray"? Is it "rather black and rather white"?

Of course, artists may establish more color categories than most people

do, but the problem does not disappear. How does "azure" differ from

"blue"? How does "deep blue" differ from "light blue"? What do "deep"

and "light" mean in these expressions? And so it goes. Yet, with some

ingenuity, a sentence containing a color expression in one language may

be translated into another language whose speakers use different

categories for subdividing the color spectrum. When hearing such a

translation, do the hearers understand exactly what the speaker meant

to convey? It is not likely (as any foreign language specialist will

attest), but the general meaning seems, often, to be sufficiently

clear. Hence, the general meaning may be a universal (or nearly

universal) semantic category, depending on how many languages the

sentence may be successfully translated into. This general meaning is

what Deese calls "meaning," and he says it may be due to both the

world outside man and to factors which are species-specific to man
(e.g., innate tendencies of a biological-neurological nature). If a
hearer does not understand almost exactly the meaning intended by the
speaker, then one can say, obviously, that there is not a one-to-one
correspondence of understanding and meaning existing between the
speaker and the hearer. Yet, the semantic distinctions may not differ
too greatly; and communication may, in fact, be carried on sometimes
without any knowledge on the part of the participants that the
speaker's semantic intent and the hearer's semantic realization of the
speaker's intent are not on balance--they are a bit asymmetrical.
These are examples of what Deese calls "linguistic semantics" as
opposed to what he calls "meaning." (They are not _his_ examples,
however.)

The foregoing discussion avoids defining "understanding" and
"translation," for nobody, it seems, has been successful in doing this
(to everybody's satisfaction). Intuitively, however, if one has
"understood" the above discussion, he has probably "grasped" the fact
that the idea of levels of abstraction is also an issue, often, where
problems of understanding and translation are concerned. For example,
it is possible that a speaker's intent in a sentence he utters is to
convey just an abstract idea--such as "snow." The first white people
who came into contact with the Eskimo people near the Arctic Circle
had this problem. The Eskimo could use many words for different kinds
of snow (_grainy_, _soggy_, etc.), but expressing the conception of "snow"
was impossible. Every language seems to have such dilemmas embedded
in it. For example, physicists and mathematicians have proposed
several definitions for "time." Most are based on some system of

measurement between items in space, but not all are. Some thinkers have said that time is infinite, and others have said that it does not exist at all. What, then, is "time"? Is it the case that, while references to time occur in every known language, no one knows what it is? In any event, "time" does seem to be a universal semantic category, and is often used universally in its abstract sense (whatever that is). If "time" is defined in terms of "space," and the latter in terms of the former (as in Einstein's theory of relativity), then both defy further definitional clarification. Yet, people use these terms successfully, for they play an important role in the ordering of people's lives. For them, there is no "abstraction." If they are right, then Deese is wrong, apparently, about separating "meaning" from "linguistic semantics," even in the sense of recognizing levels of meaning ranging from concrete to abstract.

Linguists usually try to avoid (ignore) all these problems that have been discussed. They only resort to context when there seems to be no other way of interpreting a sentence. For them, most words have a general meaning in isolation (based on their usage in various sentences); but they maintain that sentences can also be said to possess "structural meaning." For example, in John swallowed the fish the interpretation differs from that in The fish swallowed John, even though the same words are used in both sentences. Hence, word distribution itself carries meaning. On the other hand, it has been shown in the present work that changed word forms and distributions in sentences often do not change the basic, general meanings. Following are a few cases in point:

He was fool enough to go.   (5.45)
He was foolish enough to go.   (5.46)

He had lunch at the Ritz.   (5.47)
He lunched at the Ritz.   (5.48)

He feared the bear.   (5.49)
He was afraid of the bear.   (5.50)

He desired great wealth.   (5.51)
He had a desire for great wealth.   (5.52)

Not one dime did he spend.   (5.53)
He did not spend one dime.   (5.54)

He left hastily.   (5.55)
He left in haste.   (5.56)

To be, or not to be, that is the question:
    whether 'tis nobler. . . .   --Shakespeare   (5.57)
The question is (whether) to be or not to be:
    whether 'tis nobler. . . .   (5.58)
The question is whether to be (or not): whether
    'tis nobler. . . .   (5.59)
The question is whether (or not) to be: whether
    'tis nobler. . . .   (5.60)

Therefore, the present writer concludes that while there is much that

is debatable in Deese's theory, there must be some truth to his con-

tention that meaning exists prior to and outside of sentences; and

that, in some sense presently beyond explanation, meaning is mapped

onto sentences. Such a contention, of course, does not deny the

possibility that the speaking of sentences (and the meanings they

convey) stimulate or direct the hearer toward certain lines of thought,

speech, and action. But such a possibility does not necessarily imply

that speech is thought, or even that thought is totally dependent on

speech, as many people claim. It has long been noted, for example,

that it is impossible (or nearly so) to express certain logical and

mathematical conceptions in a natural language. Isaac Newton, for

instance, found it impossible to express his theory of universal

gravitation in any then known mathematical language; so he invented

the calculus. Did the thought precede the map (=the calculus)? It

would seem so. One might object and say that his theory could have

been expressed, if circuitously, in English (or in the Latin used for

scholarly works at that time), but it was his visual and logical

observations which led to the final formulations in the calculus (and

in English and Latin). Finally, it should be noted that many mathema-

ticians (and others) claim to have had unexplainable "insights,"

which it took them a long time to express in sentences, and when they

were so expressed, the sentences seemed somehow less than semantically

satisfactory. One can, for example, speak of "topological space,"

but does English really convey the mathematician's conception? The

present writer feels that the answer is in the negative.

While it is not the linguist's province to ascertain how

the mind works or how understanding takes place, it is his province to

interpret sentences; and in so doing, he cannot just concern himself

with words and sentences <u>as</u> words and sentences. He must concern

himself with the relation between "logical structure" (ideas) and

syntactic structure; and, in Deese's sense, he must attempt to show

the relation between linguistic semantics and meaning ("logical

structure") on the one hand, and between linguistic semantics and

syntax on the other hand. In order to do these things, the present

writer believes that intracultural categories need to be set up for

the semantics of each language. Then psychologists, philosophers,

and linguists, etc. need to pool their efforts to determine if there

are any universal <u>meaning</u> (as opposed to semantic) categories which

are species-specific to humans; if there are, then perhaps a

meaning-semantic match-up can be established. In view of the evidence
in this work, it seems likely that the simplest syntactic structures
are determined by such a meaning-semantic match-up; more complicated
syntactic structures are merely the result of transformational manipu-
lations on simple structures. If a model can be constructed based on
the aforesaid programme, then a true idea of generative capacity, in
the sense of Chomsky, may be worked out. Only by such a method will
it be possible to define what is meant by "possible human language."

FOOTNOTES

[1]Barbara Hall Partee, "Comments on Montague's Paper," _Approaches to Natural Lanauage_ K. J. J. Hintikka, J. M. E. Moravcsik, and P. Suppes, eds.   (Dordrecht, Holland, 1973), p. 243.

[2]Noam Chomsky, _Language and Mind_ (New York, 1968), p. 1.

[3]George Bedell, "The Arguments About Deep Structure," _Language_, L (1973), p. 442.

[4]Ibid., pp. 442-443.

[5]James Deese, _Psycholinguistics_ (Boston, 1970), pp. 1-2.   (Present author's italics.)

[6]Ibid., p. 83.   (Present author's italics.)

[7]Ibid., pp. 83-114.

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